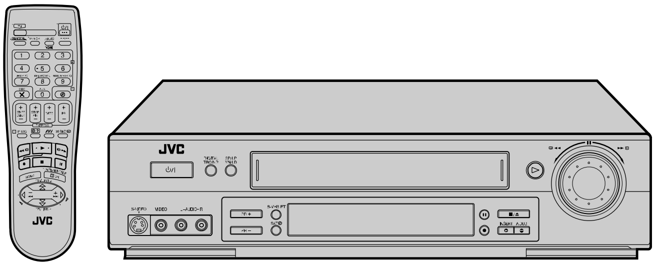
JVC

SERVICE MANUAL

MAGNETOSCOPE

HR-S6700MS/S7700MS



Hi-Fi S-VHS 625

SHOWVIEW® DELUXE

Super VHS ET

CARACTERISTIQUES TECHNIQUES *(The specifications shown pertain specifically to the model HR-S7700MS)*

GÉNÉRALES

Alimentation : CA 220 V – 240 V ∿ , 50 Hz/60 Hz
Consommation
  Alimentation en marche : 25 W
  Alimentation en veille : 4,7 W
Températures
Fonctionnement : 5°C à 40°C
Stockage : -20°C à 60°C
Position de fonctionnement
  : Seulement horizontale
Dimensions (LxHxP) : 400 mm x 94 mm x 344 mm
Poids : 4,3 kg
Format : Standard S-VHS/VHS PAL/SECAM
Largeur de bande : 12,65 mm
Vitesse de bande
  (VN) : 23,39 mm/s
  (LD) : 11,70 mm/s
Durée maximale d'enregistrement
  (VN) : 240 mn avec une cassette vidéo E-240
  (LD) : 480 mn avec une cassette vidéo E-240

VIDÉO/AUDIO

Système de signal : Signaux couleur PAL/SECAM et signal monochrome CCIR, 625 lignes/50 trames
Système d'enregistrement
  : Balayage hélicoïdal DA4 (Double Azimuth)
Entrée : 0,5 Vcc à 2,0 Vcc, 75 ohms, asymétrique
Sortie : 1,0 Vcc, 75 ohms, asymétrique
Rapport signal/bruit : 45 dB
Résolution horizontale : 400 lignes (S-VHS-PAL)
  250 lignes (VHS-PAL)
  240 lignes (VHS-SECAM)
Gamme de fréquence : 70 Hz à 10.000 Hz (Audio normal)
  20 Hz à 20.000 Hz (Audio Hi-Fi)
Entrée/sortie : Connecteurs péritélévision à 21 broches :
  ENTREE/SORTIE x 1, ENTREE/DECODEUR x 1
  Connecteurs RCA:
  ENTREE VIDEO x 1,
  ENTREE AUDIO x 1,
  SORTIE AUDIO x 1
  Connecteurs S-Vidéo:
  ENTREE x 1, SORTIE x 1

SYNTONISEUR

Système de syntonisation : Syntoniseur à synthèse de fréquence
Capacité de canaux TV : 99 positions (+ position AUX)
Canaux couverts

Gamme	SECAM L		PAL B/G	
	Fréquence	Canaux	Fréquence	Canaux
VHF (LOW)	49 MHz – 65 MHz	2 – 4	47 MHz – 89 MHz	E2 – E4 X, Y, Z
VHF (HIGH)	104 MHz – 300 MHz	5 – 10 CATV	104 MHz – 300 MHz	E5 – E12 S1 – S20 M1 – M10 U1 – U10
Hyper	300 MHz – 470 MHz	CATV	302 MHz – 470 MHz	S21 – S41
UHF	470 MHz – 862 MHz	21 – 69	470 MHz – 862 MHz	E21 – E69

MINUTERIE

Référence de l'horloge : Par quartz
Capacité de programmation : Minuterie sur 1 an/8 programmes
Durée de soutien mémoire : 60 mn

ACCESSOIRES

Accessoires fournis : Câble RF,
  Câble péritélévision à 21 broches,
  Adaptateur antenne,
  Contrôleur satellite RM-SD1,
  Boîtier de télécommande à infrarouge,
  Pile "R6" x 2,
  Etiquettes S-VHS ET

Les caractéristiques techniques sont pour le mode VN à moins d'indication contraire.
Présentation et caractéristiques modifiables sans préavis.

ATTENTION:
Ce magnétoscope contient des microprocesseurs. Des bruits électroniques externes ou des interférences peuvent causer un mauvais fonctionnement. Dans de tels cas, couper l'alimentation et débrancher le cordon d'alimentation. Puis le rebrancher et remettre l'alimentation. Sortir la cassette. Après contrôle de la cassette, faire fonctionner l'appareil comme d'ordinaire.

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The following table lists the differing points between Models (HR-S6700MS and HR-S7700MS) in this series.

	HR-S6700MS	HR-S7700MS
JOG/SHUTTLE DIAL	SHUTTLE PLAY	JOG/SHUTTLE
FLYING ERASE HEAD	NOT USED	USED
INSERT EDIT	NOT USED	USED
DIGITAL 3R	NOT USED	USED
TBC/3D-MEMORY	NOT USED	USED/2M
AUDIO DUBBING	NOT USED	USED
HiFi LEVEL METER	NOT USED	USED
RE-TAKE (CM PAUSE)	NOT USED	USED
R.PAUSE	NOT USED	USED

Important Safety Precautions

Prior to shipment from the factory, JVC products are strictly inspected to conform with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

● Precautions during Servicing

1. Locations requiring special caution are denoted by labels and inscriptions on the cabinet, chassis and certain parts of the product. When performing service, be sure to read and comply with these and other cautionary notices appearing in the operation and service manuals.

2. Parts identified by the ⚠ symbol and shaded (▨) parts are critical for safety.
Replace only with specified part numbers.
Note: Parts in this category also include those specified to comply with X-ray emission standards for products using cathode ray tubes and those specified for compliance with various regulations regarding spurious radiation emission.

3. Fuse replacement caution notice.
Caution for continued protection against fire hazard.
Replace only with same type and rated fuse(s) as specified.

4. Use specified internal wiring. Note especially:
1) Wires covered with PVC tubing
2) Double insulated wires
3) High voltage leads

5. Use specified insulating materials for hazardous live parts. Note especially:
1) Insulation Tape
2) PVC tubing
3) Spacers
4) Insulation sheets for transistors
5) Barrier

6. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.) wrap ends of wires securely about the terminals before soldering.

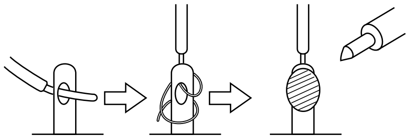


Fig.1

7. Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.)

8. Check that replaced wires do not contact sharp edged or pointed parts.

9. When a power cord has been replaced, check that 10-15 kg of force in any direction will not loosen it.

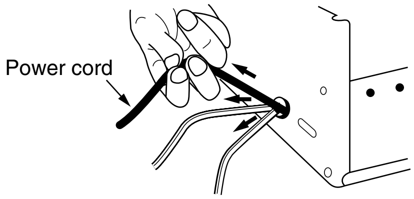


Fig.2

10. Also check areas surrounding repaired locations.

11. Products using cathode ray tubes (CRTs)
In regard to such products, the cathode ray tubes themselves, the high voltage circuits, and related circuits are specified for compliance with recognized codes pertaining to X-ray emission.
Consequently, when servicing these products, replace the cathode ray tubes and other parts with only the specified parts. Under no circumstances attempt to modify these circuits.
Unauthorized modification can increase the high voltage value and cause X-ray emission from the cathode ray tube.

12. Crimp type wire connector
In such cases as when replacing the power transformer in sets where the connections between the power cord and power transformer primary lead wires are performed using crimp type connectors, if replacing the connectors is unavoidable, in order to prevent safety hazards, perform carefully and precisely according to the following steps.

1) Connector part number : E03830-001
2) Required tool : Connector crimping tool of the proper type which will not damage insulated parts.
3) Replacement procedure
(1) Remove the old connector by cutting the wires at a point close to the connector.
Important : Do not reuse a connector (discard it).

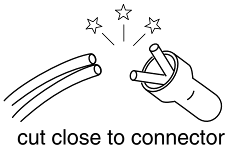


Fig.3

(2) Strip about 15 mm of the insulation from the ends of the wires. If the wires are stranded, twist the strands to avoid frayed conductors.

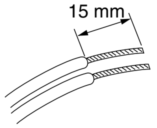


Fig.4

(3) Align the lengths of the wires to be connected. Insert the wires fully into the connector.

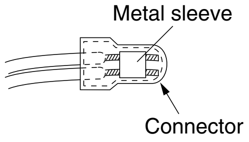


Fig.5

(4) As shown in Fig.6, use the crimping tool to crimp the metal sleeve at the center position. Be sure to crimp fully to the complete closure of the tool.

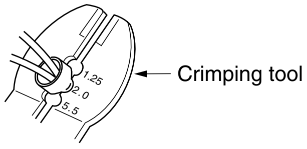


Fig.6

(5) Check the four points noted in Fig.7.

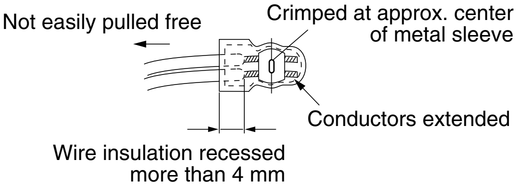

Not easily pulled free
Crimped at approx. center of metal sleeve
Conductors extended
Wire insulation recessed more than 4 mm

Fig.7

● Safety Check after Servicing

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts and wires have been returned to original positions, Afterwards, perform the following tests and confirm the specified values in order to verify compliance with safety standards.

1. **Insulation resistance test**
   Confirm the specified insulation resistance or greater between power cord plug prongs and externally exposed parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table 1 below.

2. **Dielectric strength test**
   Confirm specified dielectric strength or greater between power cord plug prongs and exposed accessible parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table 1 below.

3. **Clearance distance**
   When replacing primary circuit components, confirm specified clearance distance (d), (d') between soldered terminals, and between terminals and surrounding metallic parts. See table 1 below.

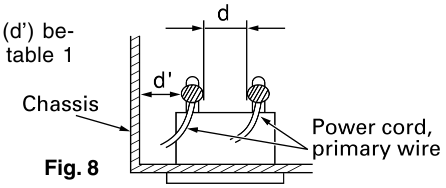


Fig. 8

4. **Leakage current test**
   Confirm specified or lower leakage current between earth ground/power cord plug prongs and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.).
   Measuring Method : (Power ON)
   Insert load Z between earth ground/power cord plug prongs and externally exposed accessible parts. Use an AC voltmeter to measure across both terminals of load Z. See figure 9 and following table 2.

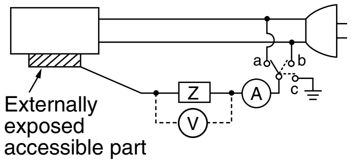


Fig. 9

5. **Grounding (Class 1 model only)**
   Confirm specified or lower grounding impedance between earth pin in AC inlet and externally exposed accessible parts (Video in, Video out, Audio in, Audio out or Fixing screw etc.).
   Measuring Method:
   Connect milli ohm meter between earth pin in AC inlet and exposed accessible parts. See figure 10 and grounding specifications.

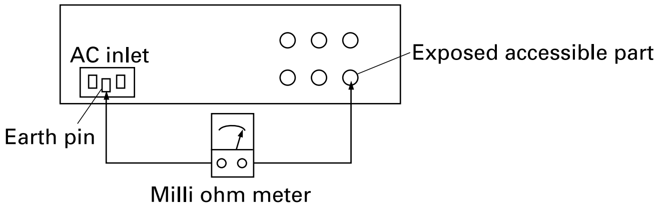


Fig. 10

Grounding Specifications

Region	Grounding Impedance (Z)
USA & Canada	Z ≦ 0.1 ohm
Europe & Australia	Z ≦ 0.5 ohm

AC Line Voltage	Region	Insulation Resistance (R)	Dielectric Strength	Clearance Distance (d), (d')
100 V	Japan	R ≧ 1 MΩ/500 V DC	AC 1 kV 1 minute	d, d' ≧ 3 mm
100 to 240 V			AC 1.5 kV 1 miute	d, d' ≧ 4 mm
110 to 130 V	USA & Canada	1 MΩ ≦ R ≦ 12 MΩ/500 V DC	AC 1 kV 1 minute	d, d' ≧ 3.2 mm
110 to 130 V 200 to 240 V	Europe & Australia	R ≧ 10 MΩ/500 V DC	AC 3 kV 1 minute (Class Ⅱ) AC 1.5 kV 1 minute (Class Ⅰ)	d ≧ 4 mm d' ≧ 8 mm (Power cord) d' ≧ 6 mm (Primary wire)

Table 1 Specifications for each region

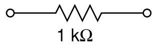
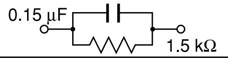
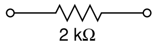
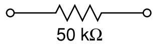
AC Line Voltage	Region	Load Z	Leakage Current (i)	a, b, c
100 V	Japan		i ≦ 1 mA rms	Exposed accessible parts
110 to 130 V	USA & Canada		i ≦ 0.5 mA rms	Exposed accessible parts
110 to 130 V 220 to 240 V	Europe & Australia		i ≦ 0.7 mA peak i ≦ 2 mA dc	Antenna earth terminals
			i ≦ 0.7 mA peak i ≦ 2 mA dc	Other terminals

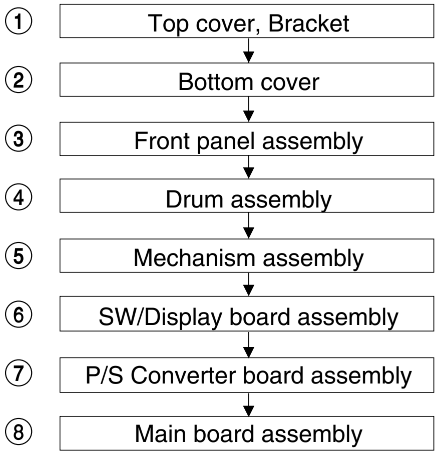
Table 2 Leakage current specifications for each region

Note: These tables are unofficial and for reference only. Be sure to confirm the precise values for your particular country and locality.

SECTION 1
DISASSEMBLY

1.1 DISASSEMBLY FLOW CHART

This flowchart lists the disassembling steps for the cabinet parts and P.C. boards in order to gain access to item(s) to be serviced. When reassembling, perform the step(s) in reverse order. Bend, route and dress the flat cables as they were originally laid.



1.2 HOW TO READ THE DISASSEMBLY AND ASSEMBLY

<Example>

Step/ Loc No.	Part Name	Fig. No.	Point	Note
①	Top cover, Bracket	D1	4(S1a),(S1b),3(L1a), 2(SD1a),(P1a), CN1(WR1a), 2(S1c)	<Note 1>

(1) (2) (3) (4) (5)

(1) Order of steps in Procedure
When reassembling, perform the step(s) in the reverse order. These numbers are also used as the identification (location) No. of parts Figures.

(2) Part name to be removed or installed.

(3) Fig. No. showing procedure or part location.

(4) Identification of part to be removed, unhooked, unlocked, released, unplugged, unclamped or unsoldered.
P= Spring, W= Washer, S= Screw, L= Locking tab, SD= Solder, CN**(WR**)= Remove the wire (WR**) from the connector (CN**).

Note:
- ***The bracketed ( ) WR of the connector symbol are assigned nos. in priority order and do not correspond to those on the spare parts list.***

(5) Adjustment information for installation

1.3 DISASSEMBLY/ASSEMBLY METHOD

Step/ Loc No.	Part Name	Fig. No.	Point	Note
①	Top cover, Bracket	D1	4(S1a), (S1b) 2(S1c)	
②	Bottom cover	D2	4(L2a),3(L2b),(S2a), 2(S2b) Earth plate	<Note 2>
③	Front panel assembly	D3	7(L3),CN901(WR3a), CN7002(WR3b) [HR-S6700MS] CN3012(WR3b) [HR-S7700MS] 2(S3),Jack board assy	<Note 3a> <Note 3b>
④	Drum assembly (Inertia plate) (Roller arm assy)	D4	3(S4),CON1(WR4a), CN1(WR4b) 4(L4a) (P4), (L4b)	<Note 3a>
⑤	Mechanism assembly	D5	2(S5a),(S5b),(S5c), 2(L5), CN1(WR5)	<Note 3a> <Note 5a> <Note 5b>
⑥	SW/Display board assembly	D6	CN7001(WR6a), CN7191(WR6b), (L6a), REC safety board assy, 2(L6b), 5(L6c)	<Note 3a> <Note 6>
⑦	P/S Converter board assembly	D7	2(S7), CN3501(WR7a), CN3502(WR7b)	<Note 3a>
⑧	Main board assembly	D8	2(S8), (L8)	

<Note 2>
- When attaching the Bottom cover, make sure that the Earth plate of the Bottom cover is passed through the hole of the Bottom chassis and then touches the GND (Ground) on the Main board assembly.

<Note 3a>
- Be careful not to damage the connector and wire etc. during connection and disconnection.
When connecting the wire to the connector, be careful with the wire direction.

<Note 3b>
- When reattaching the Front panel assembly, make sure that the door opener a of the Cassette holder assembly is lowered in position prior to the reinstallation.

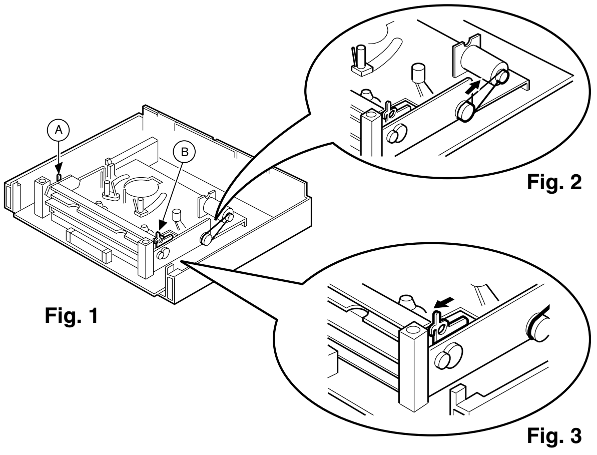
<Note 5a>
- When it is required to remove the screws (S5a) retaining the Mechanism assembly, please refer to the “Procedures for Lowering the Cassette holder assembly”(See on pages 1-2).
- When removing the Mechanism assembly only, unhook the two spacers connecting it with the Main board assembly with pliers from the back side of the Main board assembly first, and then remove the Mechanism assembly.
- When reattaching the Mechanism assembly to the Main board assembly, take care not to damage the sensors on the Main board assembly (D3001: LED, Q3002: Start sensor, Q3003: End sensor, S3002 : S cassette switch).

<Note 5b>
- The wire (WR5) has excess length that may be loose, as it is quite long. After inserting the wire and connectors, the loose portion of the wire should be taken up and accommodated between the A/C head base and the main deck.

<Note 6>
- The REC safety board assembly is attached to the SW/Display board assembly. It is therefore necessary to remove the REC safety board assembly before removing the SW/Display board assembly.

Procedures for Lowering the Cassette holder assembly

As the mechanism of this unit is integrated with the Housing assembly, the holder must be lowered and the two screws unscrewed when removing the Mechanism assembly.


A
B
Fig. 1
Fig. 2
Fig. 3

Turn the loading motor pulley in the direction as indicated by Fig.2. As both Ⓐ and Ⓑ levers are lodged twice, push the levers in the direction as indicated by Fig.3 to release them. When pushing the levers, do it in the order of Ⓐ, Ⓑ, Ⓑ, Ⓐ. When the holder has been lowered, turn the pulley until the cassette holder is securely in place without allowing any up/down movement.

Procedures for Lowering the Cassette holder assembly

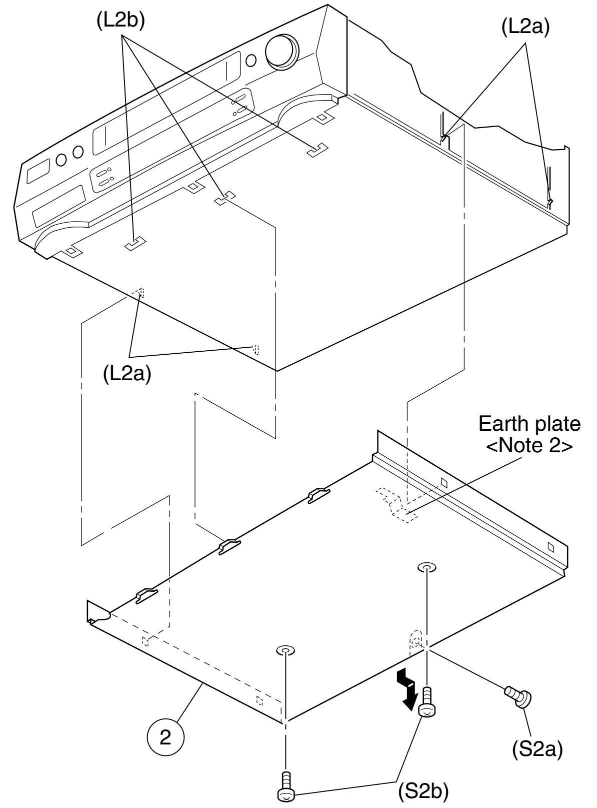

(L2b)
(L2a)
(L2a)
Earth plate
<Note 2>
2
(S2a)
(S2b)

Fig. D2

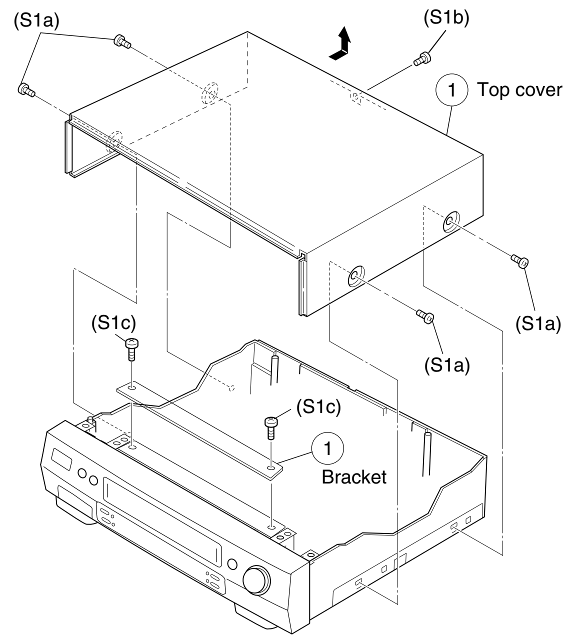

(S1a)
(S1b)
1 Top cover
(S1a)
(S1a)
(S1c)
(S1c)
1
Bracket

Fig. D1

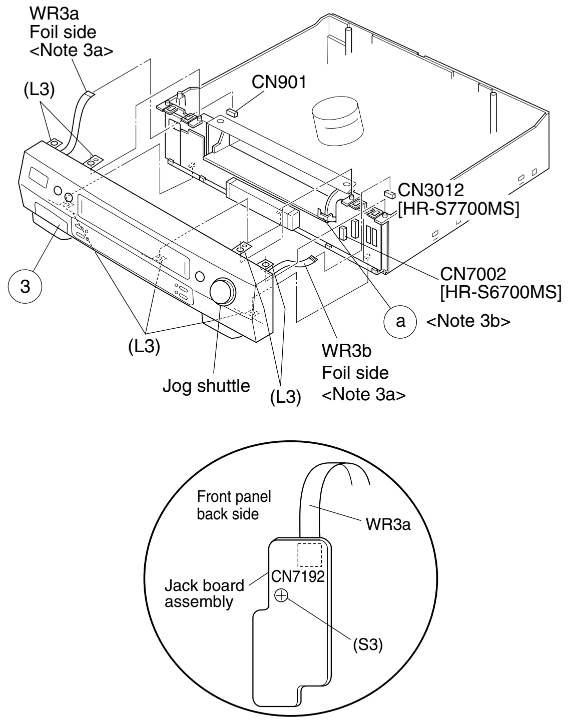

WR3a
Foil side
<Note 3a>
(L3)
CN901
CN3012
[HR-S7700MS]
CN7002
[HR-S6700MS]
3
a <Note 3b>
(L3)
Jog shuttle
(L3)
WR3b
Foil side
<Note 3a>
Front panel
back side
WR3a
Jack board
assembly
CN7192
(S3)

Fig. D3

Note: When installing the Drum assembly, secure the screws (S4) in the order of ⓐ, ⓑ, ⓒ.

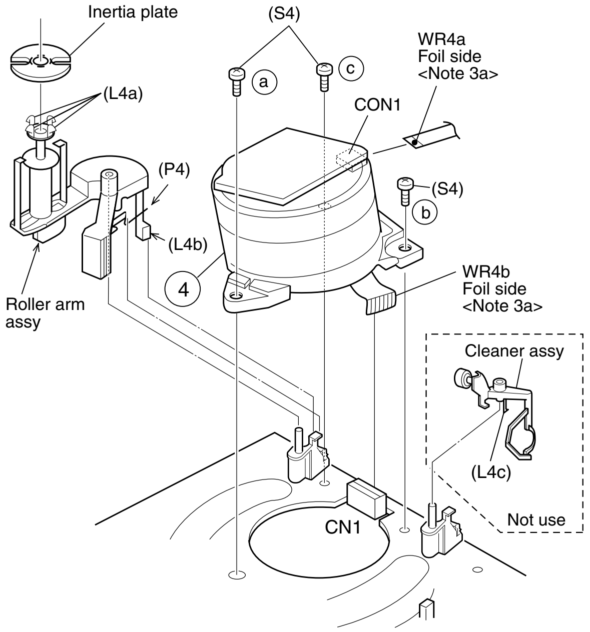
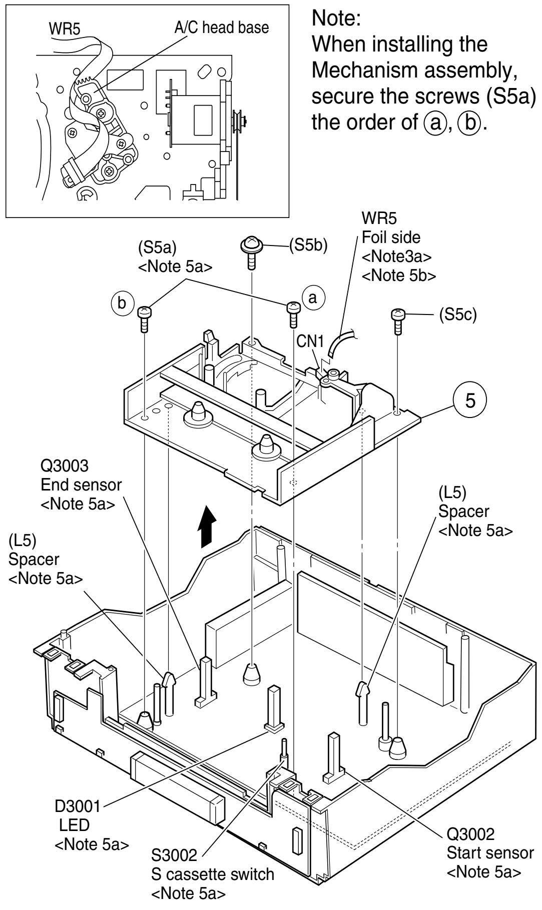

Inertia plate
(S4)
a
c
WR4a
Foil side
<Note 3a>
(L4a)
CON1
(P4)
(S4)
b
(L4b)
4
WR4b
Foil side
<Note 3a>
Roller arm
assy
Cleaner assy
(L4c)
Not use
CN1

Fig. D4


WR5
A/C head base
WR5
Foil side
<Note3a>
<Note 5b>
(S5a)
<Note 5a>
(S5b)
b
a
(S5c)
CN1
5
Q3003
End sensor
<Note 5a>
(L5)
Spacer
<Note 5a>
(L5)
Spacer
<Note 5a>
D3001
LED
<Note 5a>
S3002
S cassette switch
<Note 5a>
Q3002
Start sensor
<Note 5a>

Note:
When installing the Mechanism assembly, secure the screws (S5a) in the order of ⓐ, ⓑ.

Fig. D5

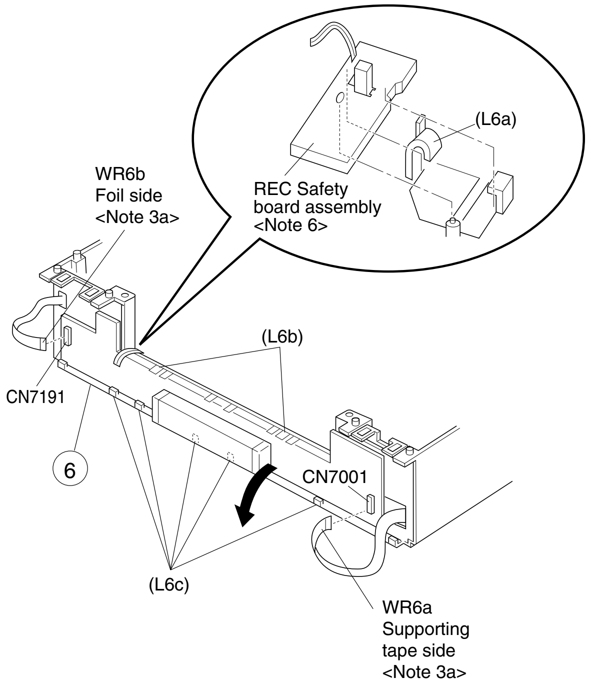

(L6a)
WR6b
Foil side
<Note 3a>
REC Safety
board assembly
<Note 6>
(L6b)
CN7191
6
CN7001
(L6c)
WR6a
Supporting
tape side
<Note 3a>

Fig. D6

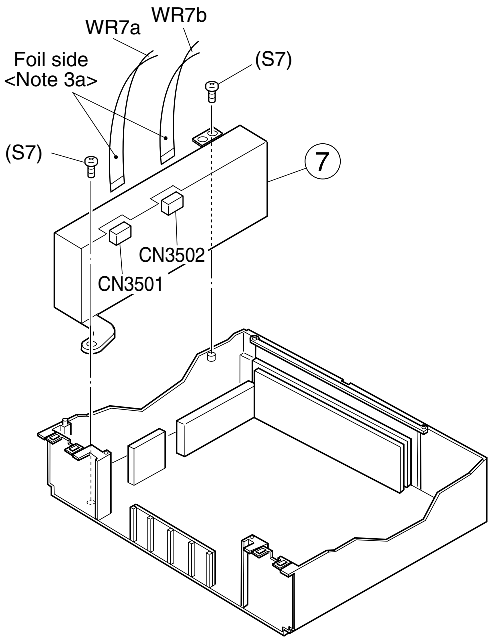

WR7a
WR7b
Foil side
<Note 3a>
(S7)
(S7)
7
CN3502
CN3501

Fig. D7

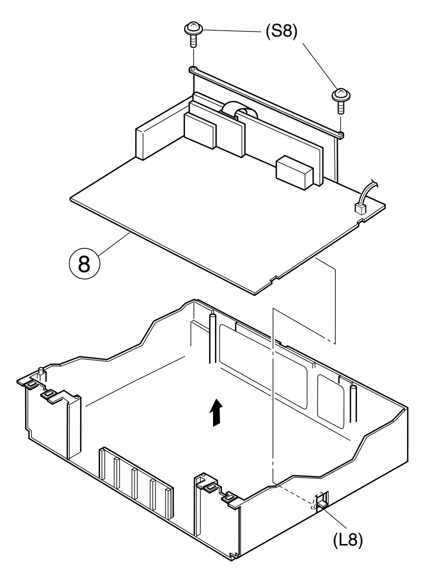


Fig. D8

1.4 SERVICE POSITION

In order to facilitate diagnosis and the repair of the Mechanism assembly, this unit is constructed so as to allow the Mechanism and Main board assemblies to be removed together from the Bottom chassis assembly.

1.4.1 How to take out the Mechanism and Main board assemblies

(1) Remove the Top cover, Bracket, Front panel assembly and Jack board assembly. (Refer to 1.3 DISASSEMBLY/ASSEMBLY METHOD.)

(2) Lower the cassette holder, and make the preparations required in order to remove the screws from the Mechanism assembly. (Refer to the “Procedures for Lowering the Cassette holder assembly” on pages 1-2 of 1.3 DISASSEMBLY/ASSEMBLY METHOD.)

(3) Take out 2 screws Ⓐ, 1 screw Ⓑ and 1 screw Ⓒ as shown in Fig. 1-4-1.

(4) Remove the flat wires from CN3011 and CN902 on the Main board assembly.

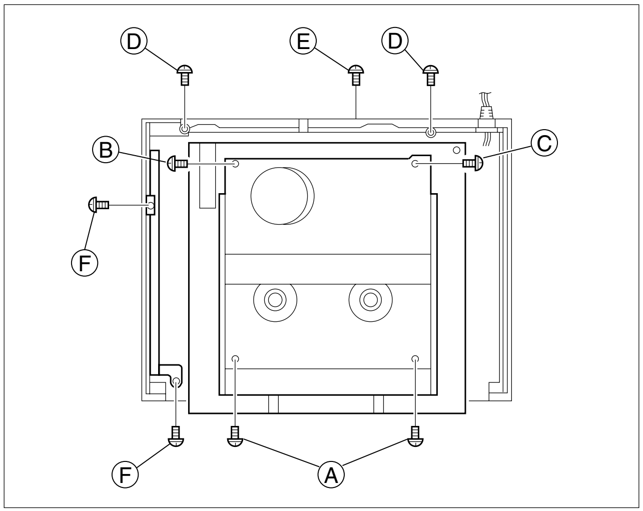


Fig. 1-4-1

(5) Take out 2 screws Ⓓ and 1 screw Ⓔ as shown in Fig. 1-4-1.

(6) Take out 2 screws Ⓕ as shown in Fig. 1-4-1. Then remove the P/S Converter board assembly. (Refer to 1.3 DISASSEMBLY/ASSEMBLY METHOD.)

(7) Remove the hook Ⓖ while holding the edge of the Main board assembly, and remove the Main board and Mechanism assemblies together. At this stage be careful of the power cord and prongs of the jacks on the back side. (Refer to Fig. 1-4-2.)

(8) Remove the SW/Display board assembly and REC safety board assembly. (Refer to page 1-3 of 1.3 DISASSEMBLY/ASSEMBLY METHOD. Take care not to pull the flat wires (Fig. D7) from CN7001 and CN7191.)

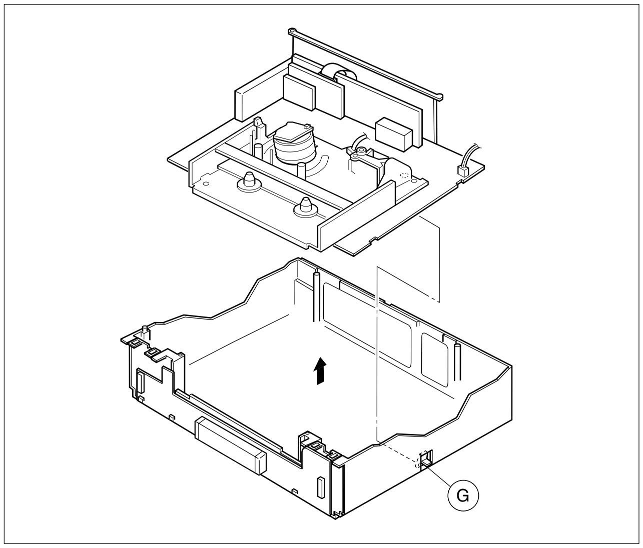


Fig. 1-4-2

(9) Place the SW/Display board assembly, REC safety board assembly, Jack board assembly and P/S Converter board assembly on the front side and left side of the Mechanism and Main board assemblies which was removed at the step (7), then connect the flat wires into CN3011, CN901 and CN902 of the Main board assembly, CN3501 and CN3502 of the P/S Converter board assembly. (Refer to Fig. 1-4-3.)

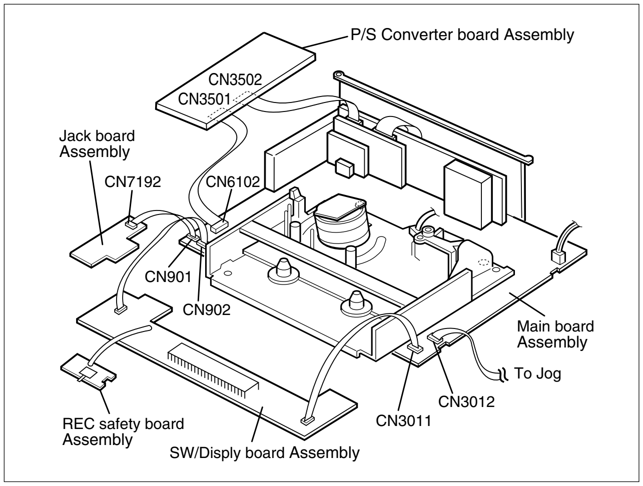


Fig. 1-4-3

(10) Connect the power cord to the wall socket, and lift the cassette holder.
(Before turning on the power make sure that there is nothing which may produce a short circuit, such as faulty soldering.)

Note:

- ***When carrying out diagnosis and repair of the Main board assembly in the service position, be sure to ground both the Main board and the Mechanism assemblies.***

  If they are improperly grounded, there may be noise on the playback picture or the FDP counter display may move even when the mechanism is kept in an inoperative status.

1.4.2 Precautions for cassette loading in the "SERVICE POSITION"

The REC safety board assembly detects cassette loading as well as cassette tabs. Therefore, after the assembly has been removed in the "SERVICE POSITION", it is required to set the switch manually on the REC safety board assembly when a cassette is loaded.

1.4.3 Cassette loading and ejection methods in the “SERVICE POSITION”(See Fig. 1-4-3).

(1) Insert a cassette halfway in the Cassette holder assembly.
(2) Set the switch on the REC safety board assembly to ON (by pressing the switch).
(3) As soon as the cassette starts to be loaded, set the switch on the REC safety board assembly to OFF (by releasing the switch).
(4) Now the desired operation (recording, playback, fast forward, rewind, etc.) is possible in this status (the status shown in Fig.1-4-3).

Notes:

- ***When performing diagnostics of the tape playback or the recording condition in the "SERVICE POSITION", enter the desired mode before turning the set upside down, and do not change the mode when performing diagnostics while the set is placed upside down. If you want to switch the mode, turn the set to the normal position (the status shown in Fig.1-4-3).***
- ***In the "SERVICE POSITION", the cassette tabs cannot be detected and recording becomes possible even with a cassette with broken tabs such as the alignment tape. Be very careful not to erase important tapes.***

(5) The switch on the REC safety board assembly does not have to be operated when ejecting a tape. But be sure to turn the set to the normal position before ejecting the tape.

1.5 MECHANISM SERVICE MODE

This model has a unique function to enter the mechanism into every operation mode without loading of any cassette tape. This function is called the “MECHANISM SERVICE MODE”.

1.5.1 How to set the "MECHANISM SERVICE MODE"

(1) Disconnect VCR from AC.
(2) Connect TPGND and TP7001 (TEST) on the SW/Display board assembly with a jump wire.
(3) Connect VCR to AC.
(4) Press the POWER button.
(5) With lock levers ⒶⒷ on the left and right of the Cassette holder assembly pulled toward the front, slide the holder in the same direction as the cassette insertion direction. (For the positions of lock levers ⒶⒷ, refer to the “Procedures for Lowering the Cassette holder assembly” on pages 1-2 of 1.3 DISASSEMBLY/ASSEMBLY METHOD.)
(6) The cassette holder lowers and, when the loading has completed, the mechanism enters the desired mode.

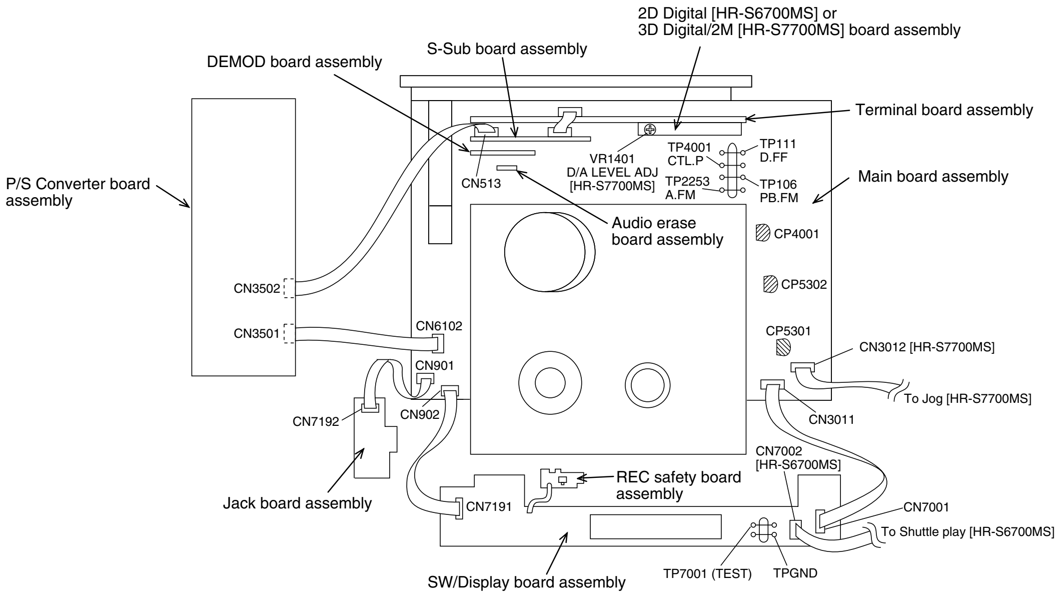

2D Digital [HR-S6700MS] or
3D Digital/2M [HR-S7700MS] board assembly
S-Sub board assembly
DEMOD board assembly
Terminal board assembly
TP4001
CTL.P
TP111
D.FF
VR1401
D/A LEVEL ADJ
[HR-S7700MS]
TP2253
A.FM
TP106
PB.FM
Main board assembly
P/S Converter board assembly
CN513
Audio erase
board assembly
CP4001
CP5302
CN3502
CN3501
CN6102
CP5301
CN3012 [HR-S7700MS]
CN901
To Jog [HR-S7700MS]
CN7192
CN902
CN3011
CN7002
[HR-S6700MS]
REC safety board
assembly
Jack board assembly
CN7191
CN7001
To Shuttle play [HR-S6700MS]
SW/Display board assembly
TP7001 (TEST)
TPGND

Fig. 1-5-1

1.6 EMERGENCY DISPLAY FUNCTION

This unit has a function for storing the history of the past two emergencies (EMG) and displaying them on each FDP. With the status of the VCR and mechanism at the moment an emergency occurred can also be confirmed.

FDP display switching

→ FDP display 0 : 00 : 00 Normal display
↓
E: ⁎⁎: ⁎⁎ Emergency content display (E:Latest:Previous)
↓
⁎1: ⁎2 : 34 Emergency detail display ①
↓
⁎5: ⁎6 : ⁎7 Emergency detail display ②

Notes:

- ***The emergency detail display ① ② show the information on the latest emergency.***
  It becomes " – – : – – : – –" when there is no latest emergency record.
- ***When using the Jig RCU, set its custom code to match the custom code of the VCR.***

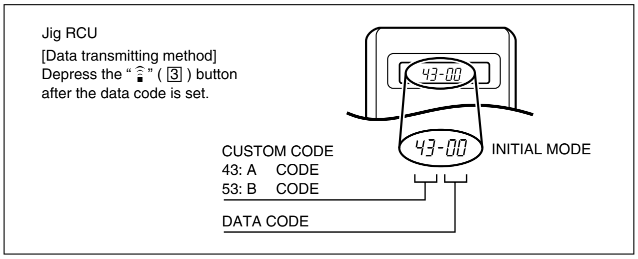

Jig RCU
[Data transmitting method]
Depress the " " (3) button
after the data code is set.
43-00
43-00
INITIAL MODE
CUSTOM CODE
43: A CODE
53: B CODE
DATA CODE

Fig. 1-6-1 Jig RCU [PTU94023B]

1.6.1 Displaying the emergency information

(1) Transmit the code "59" from the Jig RCU.
The FDP shows the emergency content in the form of "E:⁎⁎:⁎⁎".

Example 1 E : 01 : 03
↑ Latest emergency ↑ Previous emergency

Example 2 E : – – : – – ← No emergency record

Note:

- ***For the emergency content, see "1.6.3 Emergency content description".***

(2) Transmit the code "59" from the Jig RCU again.
The FDP shows the emergency detail information ① in the form of "⁎1 : ⁎2 : 34".

⁎1 : Deck operation mode at the moment of emergency
⁎2 : Mechanism operation mode at the moment of emergency
3– : Mechanism sensor information at the moment of emergency
–4 : Mechanism mode position at the moment of emergency

Note:

- ***For the emergency detail information 1 , see "1.6.4 Emergency detail information ①".***

(3) Transmit the code "59" from the Jig RCU once again.
The FDP shows the emergency detail information ② in the form of "⁎5 : ⁎6 : ⁎7".

⁎5 : Type of the cassette tape in use ①.
⁎6 : Winding position of the cassette tape in use
⁎7 : Type of the cassette tape in use ② (Winding area)

Note:

- ***For the emergency detail information ② , see "1.6.5 Emergency detail information ②".***

(4) Transmit the code "59" from the Jig RCU once again to reset the display.

1.6.2 Clearing the emergency history

(1) Display the emergency history.
(2) Transmit the code "36" from the Jig RCU.
(3) Reset the emergency display.

1.6.3 Emergency content description

Note: ***Emergency contents "E08/E09" are for the model with Dynamic Drum (DD).***

FDP	CONTENT	CAUSE
E01: Loading EMG	When the mechanism mode cannot be changed to another mode even when the loading motor has rotated for more than 4 seconds in the loading direction, [E:01] is identified and the power is turned off.	① The mechanism is locked in the middle of mode transition. ② The mechanism is locked at the loading end due to the encoder position reading error during mode transition. ③ Power is not supplied to the loading MDA.
E02: Unloading EMG	When the mechanism mode cannot be changed to another mode even when the loading motor has rotated for more than 4 seconds in the unloading direction, [E:02] is identified and the power is turned off.	① The mechanism is locked in the middle of mode transition. ② The mechanism is locked at the unloading end due to the encoder position reading error during mode transition. ③ Power is not supplied to the loading MDA.
E03: Take Up Reel Pulse EMG	When the take-up reel pulse has not been generated for more than 4 seconds in the capstan rotating mode, [E:03] is identified, the pinch rollers are turned off and stopped, and the power is turned off. However, the reel EMG is not detected in STILL/SLOW modes.	① The take-up reel pulse is not generated in the FWD transport modes (PLAY/FWD SEARCH/FF, etc.) because; 1) The idler gear is not meshed with the take-up reel gear; 2) The idler gear is meshed with the take-up reel gear, but incapable of winding due to too large mechanical load (abnormal tension); 3) The take-up reel sensor does not output the FG pulse. ② The supply reel pulse is not generated in the REV transport modes (REV SEARCH/REW, etc.) because; 1) The idler gear is not meshed with the supply reel gear. 2) The idler gear is meshed with the supply reel gear, but incapable of winding due to too large a mechanical load (abnormal tension); 3) The supply reel sensor does not output the FG pulse. ③ Power is not supplied to the reel sensors.
E04: Drum FG EMG	When the drum FG pulse has not been input for more than 3 seconds in the drum rotating mode, [E:04] is identified, the pinch rollers are turned off and stopped, and the power is turned off.	① The drum could not start or the drum rotation has stopped due to too large a load on the tape, because; 1) The tape tension is abnormally high; 2) The tape is damaged or a foreign object (grease, etc.) adheres to the tape. ② The drum FG pulse did not reach the System controller CPU because; 1) The signal circuit is disconnected in the middle; 2) The FG pulse generator (hall device) of the drum is faulty. ③ The drum control voltage (DRUM CTL V) is not supplied to the MDA. ④ Power is not supplied to the drum MDA.
E05: Cassette Eject EMG	When the eject operation does not complete in 3 seconds after the start, [E:05] is identified, the pinch rollers are turned off and stopped, and the power is turned off. When the cassette insertion operation does not complete in 3 seconds after the start, the cassette is ejected. In addition, when the operation does not complete within 3 seconds after the start, [E:05] is also identified and the power is turned off immediately.	① The cassette cannot be ejected due to a failure in the drive mechanism of the housing. ② When the housing load increases during ejection, the loading motor is stopped because of lack of headroom in its drive torque. Housing load increasing factors: Temperature environment (low temperature, etc.), mechanism wear or failure. ③ The sensor/switch for detecting the end of ejection are not functioning normally. ④ The loading motor drive voltage is lower than specified or power is not supplied to the motor (MDA). ⑤ When the user attempted to eject a cassette, a foreign object (or perhaps the user's hand) was caught in the opening of the housing.
E06: Capstan FG EMG	When the capstan FG pulse has not been generated for more than 1 second in the capstan rotating mode, [E:06] is identified, the pinch rollers are turned off and stopped, and the power is turned off.However, the capstan EMG is not detected in STILL/SLOW/FF/REW modes.	① The capstan could not start or the capstan rotation has stopped due to too large a load on the tape, because; 1) The tape tension is abnormally high (mechanical lock); 2) The tape is damaged or a foreign object (grease, etc.) is adhered to the tape (occurrence of tape entangling, etc.). ② The capstan FG pulse did not reach the System controller CPU because; 1) The signal circuit is disconnected in the middle; 2) The FG pulse generator (MR device) of the capstans is faulty. ③ The capstan control voltage (CAPSTAN CTL V) is not supplied to the MDA. ④ Power is not supplied to the capstan MDA.
E07: SW Power Short-Circuit EMG	When short-circuiting of the SW power supply with GND has lasted for 0.5 second or more, [E:07] is identified, all the motors are stopped and the power is turned off.	① The SW 5 V power supply circuit is shorted with GND. ② The SW 12 V power supply circuit is shorted with GND.
E08: DD Initialized (Absolute Position Sensor) EMG	When DD tilting does not complete in 4 seconds, [E:08] is identified, the tilt motor is stopped and the power is turned off.	① The absolute value sensor is defective. (The soldered parts have separated.) ② The pull-up resistor at the absolute sensor output is defective. (The soldered parts have separated.) ③ Contact failure or soldering failure of the pins of the connector (board-to-board) to the absolute value sensor. ④ The absolute value sensor data is not sent to the System Controller CPU.
E09: DD FG EMG	When the DD FG pulse is not generated within 2.5 seconds, [E:09] is identified, the tilt motor is stopped and the power is turned off.	① The FG sensor is defective. (The soldered parts have separated.) ② The pull-up resistor at the FG sensor output is defective. (The soldered parts have separated.) ③ Contact failure or soldering failure of the pins of the connector (board-to-board) to the FG sensor. ④ The power to the sensor is not supplied. (Connection failure/soldering failure) ⑤ The FG pulse is not sent to the System Controller CPU. ⑥ The tilt motor is defective. (The soldered parts have separated.) ⑦ The drive power to the tilt motor is not supplied. (Connection failure/soldering failure) ⑧ The tilt motor drive MDA - IC is defective. ⑨ Auto-recovery of the DD tilting cannot take place due to overrun.
E0A: Supply Reel Pulse EMG	When the supply reel pulse has not been generated for more than 10 seconds in the capstan rotating mode, [E:0A] is identified and the cassette is ejected (but the power is not turned off). However, note that the reel EMG is not detected in the SLOW/STILL mode.	① The supply reel pulse is not generated in the FWD transport mode (PLAY/FWD SEARCH/FF, etc.) because; 1) PLAY/FWD or SEARCH/FF is started while the tape in the inserted cassette is cut in the middle; 2) A mechanical factor caused tape slack inside and outside the supply reel side of the cassette shell. In this case, the supply reel will not rotate until the tape slack is removed by the FWD transport, so the pulse is not generated until then; 3) The FG pulse output from the supply reel sensor is absent. ② The take-up reel pulse is not generated in the REV transport mode (REV SEARCH/REW, etc.). 1) REV SEARCH/REW is started when the tape in the inserted cassette has been cut in the middle; 2) A mechanical factor caused tape slack inside and outside the take-up reel side of the cassette shell. In this case, the supply reel will not rotate until the tape slack is removed by the REV transport, so the pulse will not be generated until that time; 3) The FG pulse output from the take-up reel sensor is absent. ③ The power to a reel sensor is not supplied.
EC1 or EU1: Head clog warning	Presupposing the presence of the control pulse output in the PLAY mode, when the value obtained by mixing the two V.FM output channels (without regard to the A.FM output) has remained below a certain threshold level for more than 10 seconds, [E:C1] or [E:U1] is identified and recorded in the emergency history. During the period in which a head clog is detected, the FDP and OSD repeat the "3-second warning display" and "7-second noise picture display" alternately. EMG code : "E:C1" or "E:U1" / FDP : "U:01" / OSD : "Try cleaning tape." or "Use cleaning cassette." The head clog warning is reset when the above-mentioned threshold has been exceeded for more than 2 seconds or the mode is changed to another mode than PLAY.	

Table 1-6-1

1.6.4 Emergency detail information ①

The status (electrical operation mode) of the VCR and the status (mechanism operation mode/sensor information) of the mechanism in the latest emergency can be confirmed based on the figure in EMG detail information ①.

[FDP display]

⋆1 : ⋆2 : 34

⋆1 : Deck operation mode at the moment of emergency
⋆2 : Mechanism operation mode at the moment of emergency
3– : Mechanism sensor information at the moment of emergency
–4 : Mechanism mode position at the moment of emergency

Note:

- ***In the Deck operation mode/Mechanism operation mode/ Mechanism mode position, the contents of the code that is shown on the FDP differs depending on the parts number of the System Control microprocessor (IC3001) of the VCR.***
  For the microprocessor parts number that starts with the two letters "MN", refer to the Table of MN and for parts number with "HD", refer to the Table of HD.

⋆1 : Deck Operation Mode

[Table of MN]

Display	Deck Operation Mode
00	Mechanism being initialized
01	STOP with pinch roller pressure off (or tape present with P.OFF)
02	STOP with pinch roller pressure on
03	POWER OFF as a result of EMG
04	PLAY
0C	REC
10	Cassette ejected
20	FF
21	Tape fully loaded, START sensor ON, short FF
22	Cassette identification FWD SEARCH before transition to FF (SP x7-speed)
24	FWD SEARCH (variable speed) including x2-speed
2C	INSERT REC
40	REW
42	Cassette identification REV SEARCH before transition to REW (SP x7-speed)
44	REV SEARCH (variable speed)
4C	AUDIO DUB
6C	INSERT REC (VIDEO + AUDIO)
84	FWD STILL/SLOW
85	REV STILL/SLOW
8C	REC PAUSE
8D	Back spacing
8E	Forward spacing (FWD transport mode with BEST function)
AC	INSERT REC PAUSE
AD	INSERT REC Back spacing
CC	AUDIO DUB PAUSE
CD	AUDIO DUB Back spacing
EC	INSERT REC (VIDEO + AUDIO) PAUSE
ED	INSERT REC (VIDEO + AUDIO) Back spacing

[Table of HD]

Display	Deck Operation Mode
00	STOP with pinch roller pressure off (or tape present with P.OFF)
01	STOP with pinch roller pressure on
04	PLAY
0E	REC
11	Cassette ejected
22	FF
26	FWD SEARCH (variable speed) including x2-speed
2E	INSERT REC
43	REW
47	REV SEARCH (variable speed)
4C	AUDIO DUB
6E	INSERT REC (VIDEO+AUDIO)
84	FWD STILL/SLOW
85	REV STILL/SLOW
8F	REC PAUSE
AF	INSERT REC PAUSE
CD	AUDIO DUB PAUSE
EF	INSERT REC (VIDEO+AUDIO) PAUSE

⋆2 : Mechanism Operation Mode

[Table of MN]

Display	Mechanism Operation Mode
00	Command standby (Status without executing command)
02	POWER OFF by EMG occurrence
04	Moving to the adjacent position in the LOAD direction
06	Moving to the adjacent position in the UNLOAD direction
08	Cassette ejection being executed
0A	Cassette insertion being executed
0C	Tape being loaded
0E	Tape being unloaded
10	Mode transition to STOP with pinch roller compression ON
12	Mode transition to STOP with pinch roller compression OFF
14	Mode transition to STOP with pinch roller compression OFF as a result of POWER OFF
16	Mode transition to STOP with pinch roller compression ON as a result of POWER ON
18	Mode transition to PLAY
1A	Mode transition to FWD SEARCH
1C	Mode transition to REC
1E	Mode transition to FWD STILL/SLOW
20	Mode transition to REV STILL/SLOW
22	Mode transition to REV SEARCH
24	Mode transition from FF/REW to STOP
26	Mode transition to FF
28	Mode transition to REW
2A	4 sec. of REV as a result of END sensor going ON during loading
2C	Short FF/REV as a result of tape sensor going ON during unloading
2E	Mechanism position being corrected due to overrun
80	Mechanism in initial position (Dummy command)

[Table of HD]

Display	Mechanism Operation Mode
00	STOP with pinch roller pressure off
01	STOP with pinch roller pressure on
02	U/L STOP (or tape being loaded)
04	PLAY
05	PLAY (x1-speed playback using JOG)
0E	REC
11	Cassette ejected
22	FF
26	FWD SEARCH (variable speed) including x2-speed
2E	INSERT REC
43	REW
47	REV SEARCH
4C	AUDIO DUB
6E	INSERT REC (VIDEO + AUDIO)
84	FWD STILL/SLOW
85	REV STILL/SLOW
8F	REC PAUSE
AF	INSERT REC PAUSE
C7	REV SEARCH (x1-speed reverse playback using JOG)
CD	AUDIO DUB PAUSE
EF	INSERT REC (VIDEO + AUDIO) PAUSE
F0	Mechanism being initialized
F1	POWER OFF as a result of EMG
F2	Cassette being inserted
F3	Cassette being ejected
F4	Transition from STOP with pinch roller pressure on to STOP with pinch roller pressure off
F5	Transition from STOP with pinch roller pressure on to PLAY
F6	Transition from STOP with pinch roller pressure on to REC
F7	Cassette type detection SEARCH before FF/REW is being executed
F8	Tape being unloaded
F9	Transition from STOP with pinch roller pressure off to STOP with pinch roller pressure on
FA	Transition from STOP with pinch roller pressure off to FF/REW
FB	Transition from STOP with pinch roller pressure off to REC.P (T.REC,etc.)
FC	Transition from STOP with pinch roller pressure off to cassette type detection SEARCH
FD	Short REV being executed after END sensor on during unloading
FE	Tension loosening being executed after tape loading (STOP with pinch roller pressure on)

3– : Mechanism Sensor Information
[Common table of MN and HD]

Display	Mechanism Sensor Information			
	S-VHS SW	REC SAFETY SW	START SENSOR	END SENSOR
0–	VHS	Tab broken	ON	ON
1–	VHS	Tab broken	ON	OFF
2–	VHS	Tab broken	OFF	ON
3–	VHS	Tab broken	OFF	OFF
4–	VHS	Tab present	ON	ON
5–	VHS	Tab present	ON	OFF
6–	VHS	Tab present	OFF	ON
7–	VHS	Tab present	OFF	OFF
8–	S-VHS	Tab broken	ON	ON
9–	S-VHS	Tab broken	ON	OFF
A–	S-VHS	Tab broken	OFF	ON
B–	S-VHS	Tab broken	OFF	OFF
C–	S-VHS	Tab present	ON	ON
D–	S-VHS	Tab present	ON	OFF
E–	S-VHS	Tab present	OFF	ON
F–	S-VHS	Tab present	OFF	OFF

–4 : Mechanism Mode Position
[Table of MN]

Display	Mechanism Mode Position
-0	Initial value
-1	EJECT position
-2	Housing operating
-3	U/L STOP position
-4	Tape being loaded/unloaded (When the pole base is located on the front side of the position just beside the drum)
-5	Tape being loaded/unloaded (When the pole base is located on the rear side of the position just beside the drum)
-6	Pole base compressed position
-7	FF/REW position
-8	Between FF/REW and STOP with pinch roller compression ON
-9	STOP with pinch roller compression OFF
-A	Between STOP with pinch roller compression OFF and REV
-B	REV (REV STILL/SLOW) position
-C	Between REV and FWD
-D	FWD (FWD STILL/SLOW) position
-E	Between FWD and PLAY
-F	PLAY position

[Table of HD]

Display	Mechanism Mode Position
–0	EJECT position
–1	U/L STOP position
–2	Tape being loaded/unloaded (When the pole base is located on the rear side of the position just beside the drum)
–3	FF/REW position
–4	STOP with pinch roller pressure off
–5	REV (REV STILL/SLOW) position
–6	FWD (FWD STILL/SLOW) position, PLAY position
–7	Intermediate position during transition between other mechanism modes

Note:

- ***As the display is always "–7" at any intermediate position between mechanism modes, the position of transitory EMG may sometimes not be locatable.***

1.6.5 Emergency detail information ②

The type of the cassette tape and the cassette tape winding position can be confirmed based on the figure in EMG detail information ②.

[FDP display]

∗5 : ∗6 : ∗7

∗5 : Type of the cassette tape in use ①
∗6 : Winding position of the cassette tape in use
∗7 : Type of the cassette tape in use ② (Winding area)

Note:

- ***EMG detail information ② is the reference information stored using the remaining tape detection function of the cassette tape. As a result, it may not identify cassette correctly when a special cassette tape is used or when the tape has variable thickness.***

∗5 : Cassette tape type ①

Display	Cassette Tape Type ①
00	Cassette type not identified
16	Large reel/small reel (T-0 to T-15/T-130 to T-210) not classified
82	Small reel, thick tape (T-120) identified/thin tape (T-140) identified
84	Large reel (T-0 to T-60) identified
92	Small reel, thick tape (T-130) identified/thin tape (T-160 to T-210) identified
93	Small reel, thick tape/C cassette (T-0 to T-100/C cassette) not classified
C3	Small reel, thick tape/C cassette (T-0 to T-100/C cassette) being classified
D3	Small reel, thick tape/C cassette (T-0 to T-100/C cassette) being classified
E1	C cassette, thick tape (TC-10 to TC-20) identified
E2	Small reel, thick tape (T-0 to T-100) identified
E9	C cassette, thin tape (TC-30 to TC-40) identified
F1	C cassette, thick tape/thin tape (TC-10 to TC-40) not classified

Notes:

- ***Cassette tape type ① is identified a few times during mode transition and the identification count is variable depending on the cassette tape type. If an EMG occurs in the middle of identification, the cassette tape type may not be able to be identified.***
- ***If other value than those listed in the above table is displayed, the cassette tape type is not identified.***

∗6 : Cassette tape winding position

The cassette tape winding position at the moment of EMG is displayed by dividing the entire tape (from the beginning to the end) in 22 sections using a hex number from "00" to "15".

"00" : End of winding
"15" : Beginning of winding
"FF" : Tape position not identified

∗7 : Cassette tape type ② (Winding area)

Display	Cassette Tape Type ②	
00	Cassette type not identified	
07	Small reel, thick tape	T-5
08 - 0E	C cassette, thick tape	TC-10
09 - 15	C cassette, thick tape	TC-20P
0A - 0B	Small reel, thick tape	T-20
0A - 16	C cassette, thin tape	TC-30
0A - 16	C cassette, thin tape	TC-40
0D - 0F	Small reel, thick tape	T-40
11 - 14	Small reel, thick tape	T-60
15 - 18	Small reel, thick tape	T-80/DF-160
17 - 1A	Small reel, thick tape	T-80/DF-180
19 - 1D	Small reel, thick tape	T-100
1D - 21	Small reel, thick tape	T-120/DF-240
1E - 1F	Small reel, thin tape	T-140
1F - 23	Small reel, thick tape	T-130
21 - 23	Small reel, thin tape	T-160
21 - 23	Small reel, thin tape	T-168
22 - 24	Small reel, thick tape	DF-300
22 - 24	Small reel, thin tape	T-180/DF-380
22 - 24	Small reel, thin tape	T-210/DF-420
22 - 23	Large reel	T-5
23 - 24	Large reel	T-10
25 - 26	Large reel	T-20
27 - 29	Large reel	T-30
29 - 2B	Large reel	T-40
2D - 2F	Large reel	T-60

Note:

- ***The values of cassette tape type ② in the above table are typical values with representative cassette tapes.***

1.7 SYSCON CIRCUIT

1.7.1 Syscon CPU pin function (IC3001) 1/2

PIN NO.	LABEL	IN/OUT	FUNCTION
1	CTL(+)	IN/OUT	CTL(+) SIGNAL
2	SVSS	-	GND
3	CTL(-)	IN/OUT	CTL(-) SIGNAL
4	CTLBIAS	-	CTL BIAS VOLTAGE
5	CTLFB	IN	CTL PULSE FEEDBACK
6	CTLAMPOUT	OUT	CTL PULSE OUTPUT
7	CTLSMTIN	IN	CTL PULSE INPUT
8	CFG	IN	CAPSTAN FG PULSE INPUT
9	SVCC	-	SYSTEM POWER
10	AVCC	-	SYSTEM POWER FOR ANALOG CIRCUIT
11	NORM/MESEC/S	IN	SVHS MODE:H
12	SECAM_DET(H)/KILLER_DET	IN	DETECTION SIGNAL FOR SECAM ON PB MODE (SECAM:H) / NC
13	VIDEO_ENV	IN	AUTO TRACKING DETECT/INPUT THE AVERAGE OF PLAYBACK VIDEO SIGNAL
14	START_SENSOR	IN	START SENSOR
15	END_SENSOR	IN	END SENSOR
16	IND(L)	IN	AUDIO INPUT (LCH) FOR THE FDP AUDIO INDICATOR
17	DD_ABS	-	NC
18	SCR_ID	IN	SCRAMBLE CONTROL INPUT (SCRAMBLE:H)
19	IND(R)	IN	AUDIO INPUT (RCH) FOR THE FDP AUDIO INDICATOR
20	BS_ANT/AFC	IN	TUNING CLOCK
21	LED/RF AGC	IN	NC/CHANGES IN ATS+IC OUTPUT AS CAUSED BY CHANGES IN RECEIVER SENSITIVITY WHEN THE SAME CHANNEL IS RECEIVED MORE THAN ONCE ARE INPUT.
22	A.ENV/ND(L)	IN	AUDIO PB FM ENV.INPUT/NON HiFi MODE:L
23	AVSS	-	GND FOR ANALOG CIRCUIT
24	CTL_GAIN	OUT	CONTROL AMP OUT FREQUENCY RESPONSE SWITCHING
25	LSA	IN	MECHANISM MODE DETECT(A)
26	LSB	IN	MECHANISM MODE DETECT(B)
27	LSC	IN	MECHANISM MODE DETECT(C)
28	CAP_REV(L)	OUT	CAPSTAN MOTOR REVERSE CONTROL (FWD:H/REV:L)
29	RC	IN	REMOTE CONTROL DATA INPUT
30	LOCK(L)/P.SAVE[0.1]	IN	TUNING PLL LOCK DETECT:L / NC
31	P50_IN	IN	CONTROL SIGNAL FOR TV LINK
32	R.PAUSE/COMPU_IN	IN	REMOTE PAUSE CONTROL [HR-S7700MS] / NC
33	RAE_OUT/COMPUOUT	-	NC
34	P50_OUT	OUT	CONTROL SIGNAL FOR TV LINK
35	LMC1	OUT	LOADING MOTOR DRIVE(1)
36	LMC2	OUT	LOADING MOTOR DRIVE(2)
37	LMC3	OUT	LOADING MOTOR DRIVE(3)
38	SB_G(PWM)	OUT	VOLTAGE CONTROL SIGNAL FOR VIDEO FREQUENCY RESPONSE
39	STB/TEST	OUT	STROBE SIGNAL (FOR FDP DRIVER)
40	POWER_DET	IN	DETECTION SIGNAL FOR POWER DOWN OF AC POWER SUPPLY
41	REC_SAFETY	IN	REC SAFETY SWITCH DETECT (SW ON:L)
42	PROTECT	IN	DETECTION SIGNAL FOR SW POWER SUPPLY
43	VSS	-	GND
44	RMO	OUT	REMOTE CONTROL OUTPUT FOR SATELLITE RECEIVER
45	VCC	-	SYSTEM POWER
46	EXP2_DATA	IN/OUT	SERIAL DATA TRANSFER OUTPUT FOR TUNER/REG CONTROL
47	EXP1_DATA	IN/OUT	SERIAL DATA TRANSFER OUTPUT FOR AUDIO/VIDEO CONTROL
48	EXP_CLK	OUT	SERIAL DATA TRANSFER CLOCK FOR AUDIO/VIDEO AND TUNER/REG CONTROL
49	I2C_DATA_A/V	IN/OUT	SERIAL DATA TRANSFER OUTPUT FOR THE VIDEO/AUDIO IC
50	I2C_CLK_A/V	OUT	SERIAL DATA TRANSFER CLOCK FOR THE VIDEO/AUDIO IC
51	S.DATA_TOSYS	IN	SERIAL DATA TRANSFER OUTPUT FROM THE ON-SCREEN IC TO THE FDP DRIVER
52	S.DATA_FRSYS	OUT	SERIAL DATA TRANSFER OUTPUT FROM THE FDP DRIVER TO THE ON-SCREEN IC
53	S.CLK	OUT	SERIAL DATA TRANSMISSION CLOCK FROM THE FDP DRIVER TO THE ON-SCREEN IC
54	SP_FG	IN	DETECTION SIGNAL FOR SUPPLY REEL ROTATION/TAPE REMAIN
55	TU_FG	IN	DETECTION SIGNAL FOR TAKE-UP REEL ROTATION/TAPE REMAIN
56	SECAM(H)/EDS(H)	OUT	COLOUR SYSTEM SECAM:H / NC

Table 1-7-1 SYSCON CPU pin function(1/2)

1.7.2 Syscon CPU pin function (IC3001) 2/2

PIN NO.	LABEL	IN/OUT	FUNCTION
57	TU_CE	OUT	CHIP ENABLE OF THE TUNER UNIT
58	N.REC_ST(H)	OUT	NORMAL AUDIO SOUND RECORDING START
59	DD_FG	-	NC
60	TU_CLK	OUT	CLOCK FOR DATA TRANSFER TO THE TUNER UNIT
61	TU_DATA	OUT	TUNING DATA
62	FWE	-	NC
63	NMI(L)	-	NC
64	X2	-	TIMER CLOCK (32.768KHz)
65	X1	-	TIMER CLOCK (32.768KHz)
66	RES(L)	-	RESET TERMINAL (RESET ON:L)
67	OSC1(IN)	-	MAIN SYSTEM CLOCK(10MHz)
68	VSS	-	GND
69	OSC2(OUT)	-	MAIN SYSTEM CLOCK(10MHz)
70	VCC	-	SYSTEM POWER
71	MODE	-	NC
72	TU_A_MUTE(H)	OUT	TUNER AUDIO MUTE CONTROL (MUTE:H)
73	TU_V_MUTE(H)	OUT	TUNER VIDEO CONTROL (MUTE:H)
74	A.MUTE(H)	OUT	AUDIO MUTE CONTROL (MUTE:H)
75	I2C_CLK2	OUT	SERIAL DATA TRANSFER CLOCK FOR MEMORY IC
76	I2C_DATA2	IN/OUT	SERIAL DATA TRANSFER OUTPUT FOR MEMORY IC
77	DDCFWD	-	NC
78	DDCREV	-	NC
79	DDSPDCTL	-	NC
80	V.P.CTL	OUT	V.PULSE CONTROL, V COMPENSATION DURING SPECIAL PLAYBACK [HR-S7700MS]
81	R-Y_REV/EDS_CS	-	NC
82	VCC	-	SYSTEM POWER
83	SLOW_P	OUT	MEMORY TIMING CONTROL IN THE SLOW MODE [HR-S7700MS]
84	VSS	-	GND
85	SP_SHORT(H)	OUT	MODE SELECT [HR-S6700MS]
86	LP_SHORT(H)	OUT	MODE SELECT [HR-S6700MS]
87	FLY_ON(H)	OUT	FLYING ERASE ON:H [HR-S7700MS]
88	H.REC_ST(H)	OUT	HIFI AUDIO SOUND RECORDING START
89	TRICK(H)/M_TRICK(L)	-	NC
90	HEAD_SEL	IN	HEAD SELECT(LP HEAD:H, SP HEAD:L)
91	OSD_CS	OUT	CHIP SELECT FOR THE ON-SCREEN IC
92	SYNC_DET(H)	IN	DETECTION OF VIDEO SYNC SIGNAL (DETECTED:H)
93	MESECAM(H)	OUT	MESECAM:H
94	JSB/STLB	IN	INPUT FOR THE JOG SHUTTLE [HR-S7700MS]
95	SHTL(L)/JOGA	IN	INPUT FOR THE JOG SHUTTLE [HR-S7700MS]
96	JOGB/S_CASS(H)	IN	NC/DETECTION SIGNAL FOR SVHS CASSETTE (SVHS:H)
97	JSA/STLA	IN	INPUT FOR THE JOG SHUTTLE [HR-S7700MS]
98	C.SYNC	IN	COMPOSITE SYNC
99	A.FF	OUT	AUDIO FF OUTPUT
100	V.FF	OUT	ROTATION DETECTION SIGNAL FOR DRUM MOTOR/TIMING CONTROL SIGNAL FOR REC
101	CAPPWM	OUT	CAPSTAN MOTOR CONTROL
102	DRUMPWM	OUT	DRUM MOTOR CONTROL
103	SUB_RESET	-	NC
104	HI_FF/REW(L)	OUT	HIGH SPEED FF/REW:L
105	SUB_BUSY	-	NC
106	SUB_CS	-	NC
107	DPG	IN	DRUM PICKUP PULSE INPUT (SWITCHING PULSE)
108	DFG	IN	DRUM FG PULSE INPUT
109	VCC	-	SYSTEM POWER
110	V.PULSE	OUT	V.PULSE ADDITION TIMING CONTROL
111	VSS	-	GND
112	CTLREF	-	CTL REFERENCE VOLTAGE

Table 1-7-2 SYSCON CPU pin function(2/2)

SECTION 2
MECHANISM ADJUSTMENT

2.1 BEFORE STARTING REPAIR AND ADJUSTMENT

2.1.1 Precautions

(1) Unplug the power cable of the main unit before using your soldering iron.
(2) Take care not to cause any damage to the conductor wires when plugging and unplugging the connectors.
(3) Do not randomly handle the parts without identifying where the trouble is.
(4) Exercise enough care not to damage the lugs, etc. during the repair work.
(5) When installing the front panel assembly, be sure to hook the lug on the back side of the cassette door to the door opener of the cassette holder. If this operation is neglected it will not be possible to remove the cassette when ejecting because the housing door cannot be opened.

2.1.2 Checking for Proper Mechanical Operations

Enter the mechanism service mode when you want to operate the mechanism when no cassette is loaded. (See 1.5 MECHANISM SERVICE MODE.)

2.1.3 Manually Removing the Cassette Tape

1. In case of electrical failures

If you cannot remove the cassette tape which is loaded because of any electrical failure, manually remove it by taking the following steps.

(1) Unplug the power cable and remove the top cover, bracket and front panel assembly. (See 1.3 DISASSEMBLY/ASSEMBLY METHOD.)
(2) Unload the cassette by manually turning the loading motor of the mechanism assembly toward the front. In doing so, hold the tape by the hand to keep the slack away from any grease. (See Fig.2-1-3a.)
(3) Bring the pole base assembly (supply or take-up side) to a pause when it reaches the position where it is hidden behind the cassette tape.
(4) Move the top guide toward the drum while holding down the lug Ⓐ of the bracket retaining the top guide. Likewise hold part Ⓑ down and remove the top guide.
Section Ⓒ of the top guide is then brought under the cassette lid. Then remove the top guide by pressing the whole cassette tape down. (See Fig.2-1-3b.)
(5) Remove the cassette tape by holding both the slackened tape and the cassette lid.
(6) Take up the slack of the tape into the cassette. This completes removal of the cassette tape.

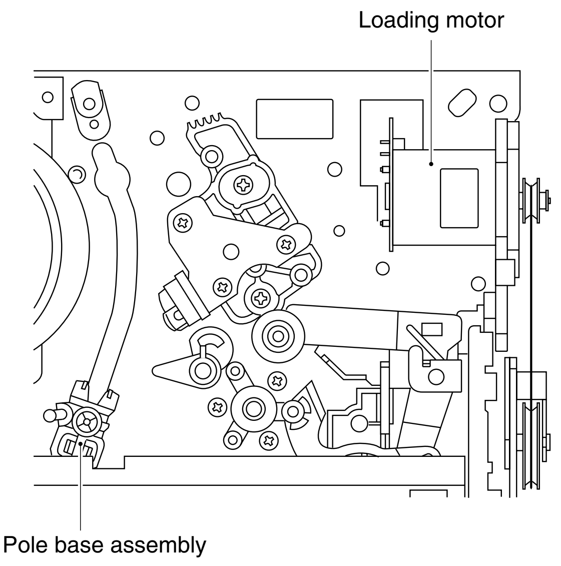


Fig. 2-1-3a

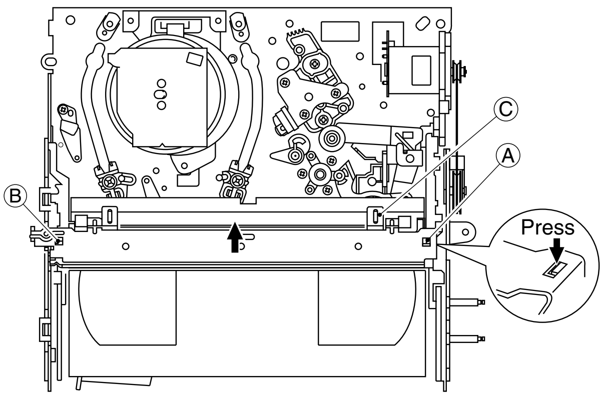


Fig. 2-1-3b

2. In case of mechanical failure

If you cannot remove the cassette tape which is loaded because of any mechanical failure, manually remove it by taking the following steps.

(1) Unplug the power cable and remove the top cover, front panel assembly and others so that the mechanism assembly is visible. (See 1.3 DISASSEMBLY/ASSEMBLY METHOD.)

(2) While keeping the tension arm assembly of the mechanism assembly free from tension, pull the tape on the pole base assembly (supply or take-up side) out of the guide roller. (See Fig.2-1-3c.)

(3) Take the spring of the pinch roller arm assembly off the hook of the press lever assembly, and detach it from the tape. (See Fig.2-1-3d.)

(4) In the same way as in the electrical failure instructions in 2.1.3-1(4), remove the top guide.

(5) Raise the cassette tape cover. By keeping it in that position, draw out the cassette tape case from the cassette holder and take out the tape.

(6) By hanging the pinch roller arm assembly spring back on the hook, take up the slack of the tape into the cassette.

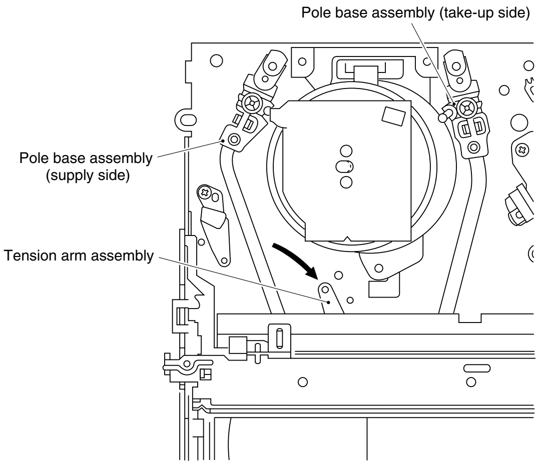

Pole base assembly (take-up side)
Pole base assembly (supply side)
Tension arm assembly

Fig. 2-1-3c

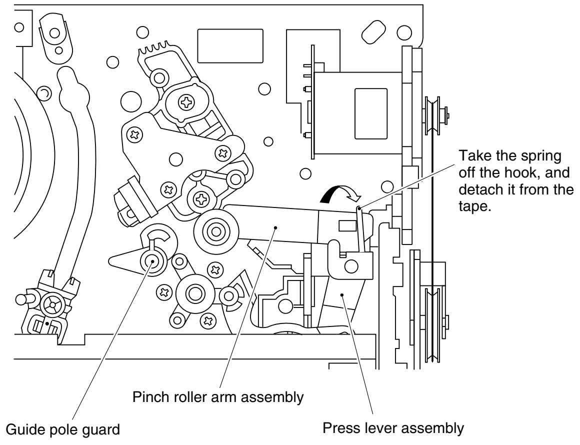
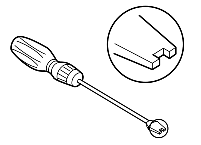
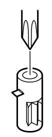
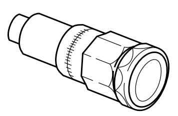
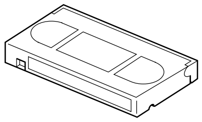
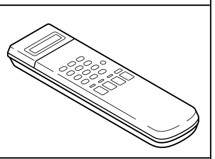
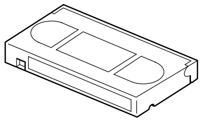
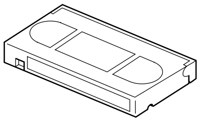

Take the spring off the hook, and detach it from the tape.
Pinch roller arm assembly
Guide pole guard
Press lever assembly

Fig. 2-1-3d

2.1.4 Jigs and Tools Required for Adjustment

Roller driver PTU94002	A/C head positioning tool PTU94010	Torque gauge PUJ48075-2
		
Back tension cassette gauge PUJ48076-2	Jig RCU PTU94023B	
		
Alignment tape (SP, stairstep, PAL) MHPE	Alignment tape (LP, stairstep, PAL) MHPE-L	
		

2.1.5 Maintenance and Inspection

1. Location of major mechanical parts

In this chapter, the two mechanism speeds are described by comparing the speeds of the standard type and the high-speed FF/REW type.

It is possible to distinguish between these two types of mechanism by the diameters of their capstan pulleys.

The capstan pulley diameter for the standard type is approx. 32 mm.

The capstan pulley diameter for the high-speed FF/REW type is approx. 43 mm.

For information on the different parts used in the two mechanism types, please refer to the “Replacement of major parts”.

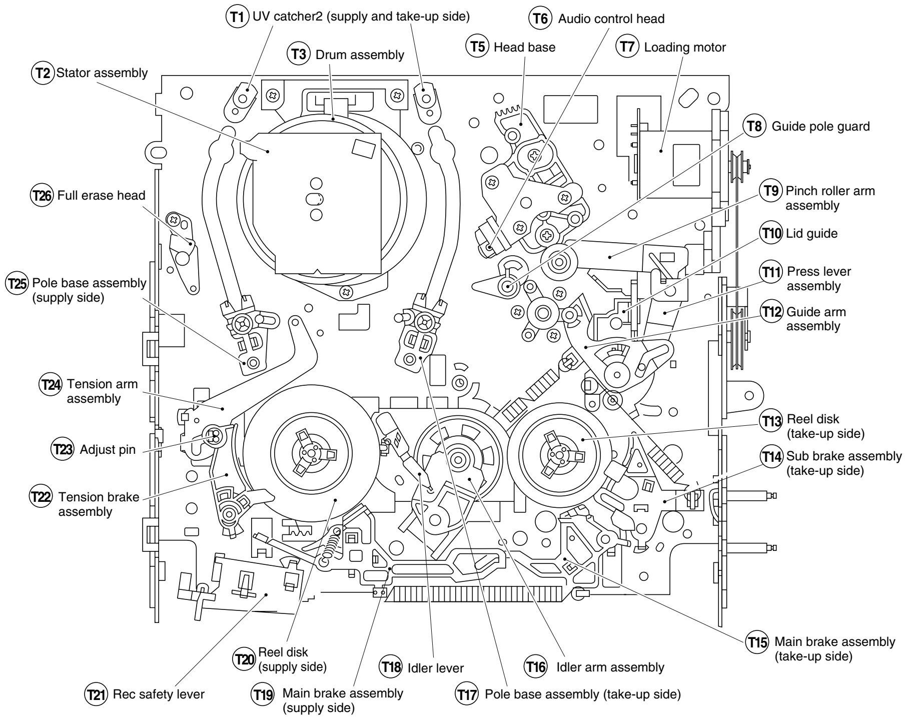

T1 UV catcher2 (supply and take-up side)
T6 Audio control head
T3 Drum assembly
T5 Head base
T7 Loading motor
T2 Stator assembly
T8 Guide pole guard
T26 Full erase head
T9 Pinch roller arm assembly
T10 Lid guide
T25 Pole base assembly (supply side)
T11 Press lever assembly
T12 Guide arm assembly
T24 Tension arm assembly
T13 Reel disk (take-up side)
T23 Adjust pin
T14 Sub brake assembly (take-up side)
T22 Tension brake assembly
T15 Main brake assembly (take-up side)
T20 Reel disk (supply side)
T18 Idler lever
T16 Idler arm assembly
T21 Rec safety lever
T19 Main brake assembly (supply side)
T17 Pole base assembly (take-up side)

Fig. 2-1-5a Mechanism assembly top side

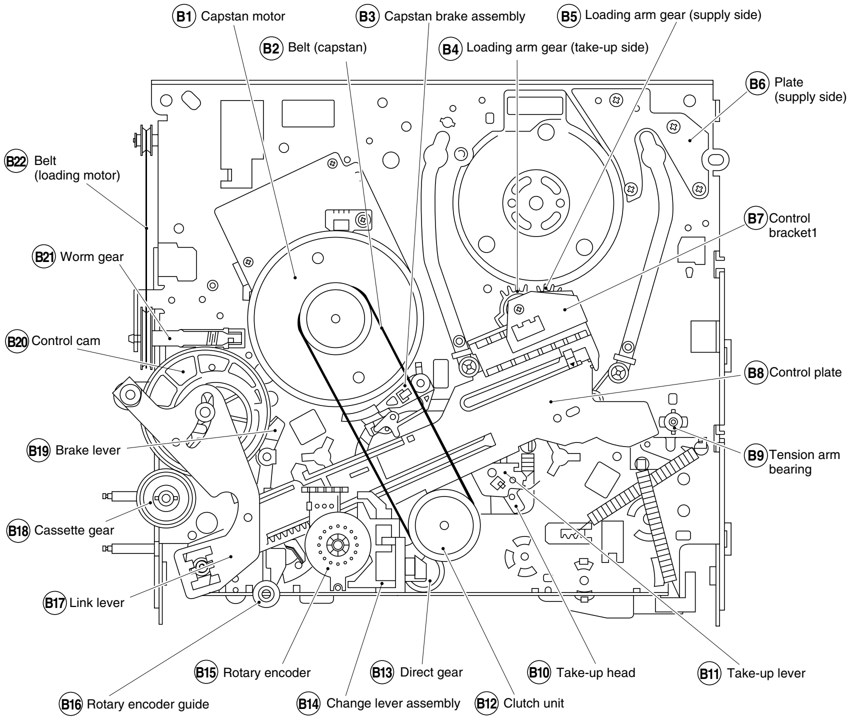

B1 Capstan motor
B3 Capstan brake assembly
B5 Loading arm gear (supply side)
B2 Belt (capstan)
B4 Loading arm gear (take-up side)
B6 Plate (supply side)
B22 Belt (loading motor)
B7 Control bracket1
B21 Worm gear
B20 Control cam
B8 Control plate
B19 Brake lever
B9 Tension arm bearing
B18 Cassette gear
B17 Link lever
B15 Rotary encoder
B13 Direct gear
B10 Take-up head
B11 Take-up lever
B16 Rotary encoder guide
B14 Change lever assembly
B12 Clutch unit

Fig. 2-1-5b Mechanism assembly bottom side

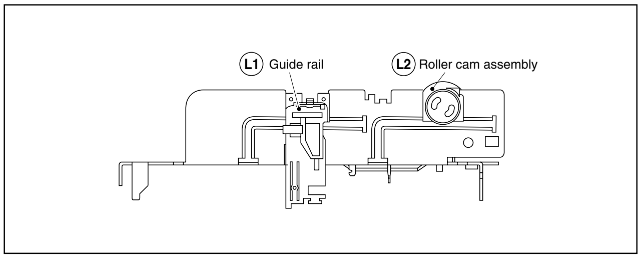


Fig. 2-1-5c Mechanism assembly left side

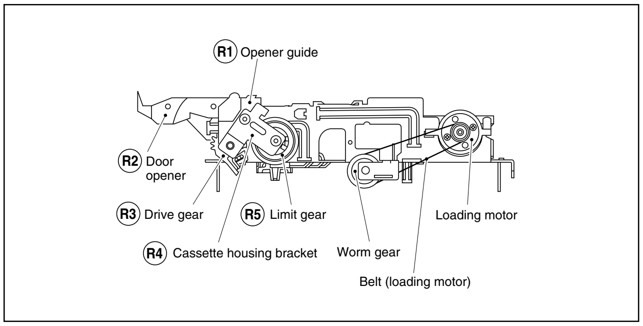


Fig. 2-1-5d Mechanism assembly right side

2. Cleaning

Regular cleaning of the transport system parts is desirable but practically impossible. So make it a rule to carry out cleaning of the tape transport system whenever the machine is serviced.

When the video head, tape guide and/or brush get soiled, the playback picture may appear inferior or at worst disappear, resulting in possible tape damage.

(1) When cleaning the upper drum (especially the video head), soak a piece of closely woven cloth or Kimu-wipe with alcohol and while holding the cloth onto the upper drum by the fingers, turn the upper drum counterclockwise.

Note:

- ***Absolutely avoid sweeping the upper drum vertically as this will cause damage to the video head.***

(2) To clean the parts of the tape transport system other than the upper drum, use a piece of closely woven cloth or a cotton swab soaked with alcohol.

(3) After cleaning, make sure that the cleaned parts are completely dry before using the video tape.

3. Lubrication

With no need for periodical lubrication, you have only to lubricate new parts after replacement. If any oil or grease on contact parts is soiled, wipe it off and newly lubricate the parts.

Note:

- ***See the "mechanism assembly" diagram of the parts list for the lubricating or greasing spots, and for the types of oil or grease to be used.***

4. Suggested servicing schedule for main components

The following table indicates the suggested period for such service measures as cleaning,lubrication and replacement. In practice, the indicated periods will vary widely according to environmental and usage conditions.However, the indicated components should be inspected when a set is brought for service and the maintenance work performed if necessary. Also note that rubber parts may deform in time,even if the set is not used.

System	Parts Name	Operation Hours	
		~1000H	~2000H
Tape transport	Upper drum assembly	★○	○
	A/C head	★○	★○
	Lower drum assembly	★	★○
	Pinch roller arm assembly	★	★
	Full erase head	★	★
	Tension arm assembly	★	★
	Capstan motor (Shaft)	★	★
	Guide arm assembly	★	★
Drive	Capstan motor		○
	Capstan brake assembly		○
	Main brake assembly		○
	Belt (Capstan)	○	○
	Belt (Loading motor)		○
	Loading motor		○
	Clutch unit		○
	Worm gear		○
	Control plate		○
Other	Brush	★○	★○
	Tension brake assembly	○	○
	Rotary encoder		○

★ : Cleaning
○ : Inspection or Replacement if necessary

Table 2-1-5a

5. Disassembling procedure table

The following table indicates the order in which parts are removed for replacement. To replace parts, remove them in the order of 1 to 18 as shown in the table. To install them, reverse the removal sequence.

The symbols and numbers preceding the individual part names represent the numbers in the "Location of major mechanical parts" table. Also, the "T", "B", and "T/B" on the right of each part name shows that the particular part is removed from the front, from the back, and from both sides of the mechanism, respectively.

	Symbols and numbers			L1	L2	R4	R1	–	–	R3	–	T9	T12	T11	T1	B15	B12	B14	B13	–	B17	B21	B7	B8	B5	B4	B11	T14	T15	T13	T22	T24	T18	B19
Symbols and numbers	Removal parts (Reference items) Replacement parts	Front (T)/Back (B) of mechanism	Number of removal steps	Guide rail	Roller cam assembly	Cassette housing bracket	Opener guide	Relay gear	Cassette holder assembly	Drive gear	Drive arm	Pinch roller arm assembly	Guide arm assembly	Press lever assembly	UV catcher2	Rotary encoder	Clutch unit	Change lever assembly	Direct gear	Clutch gear	Link lever	Worm gear	Control bracket1	Control plate	Loading arm gear (supply side)	Loading arm gear (take-up side)	Take-up lever	Sub brake assembly (take-up side)	Main brake assembly (take-up side)	Reel disk (take-up side)	Tension brake assembly	Tension arm assembly	Idler lever	Brake lever (*1)
L1	2.2.3 Guide rail	T	1																															
L2	2.2.3 Roller cam assembly	T	1																															
R4	2.2.3 Cassette housing bracket	T	1																															
R1	2.2.3 Opener guide	T	2			1																												
R2	2.2.3 Door opener	T	3			1	2																											
–	2.2.3 Relay gear	T	3			1	2																											
R5	2.2.3 Limit gear	T	3			1	2																											
–	2.2.3 Cassette holder assembly	T	6	1	2	3	4	5																										
R3	2.2.3 Drive gear	T	4			1	2	3																										
–	2.2.3 Drive arm	T	8	1	2	3	4	5	6	7																								
T9	2.2.4 Pinch roller arm assembly	T	1																															
T12	2.2.5 Guide arm assembly	T	1																															
T11	2.2.5 Press lever assembly	T	3									1	2																					
T6	2.2.6 Audio control head	T	1																															
T7	2.2.7 Loading motor	T	1																															
B1	2.2.8 Capstan motor	T/B	1																															
T1	2.2.9 UV catcher2	T	1																															
T17	2.2.9 Pole base assembly (take-up side)	T/B	2												1																			
T25	2.2.9 Pole base assembly (supply side)	T/B	2												1																			
B15	2.2.10 Rotary encoder	B	1																															
B12	2.2.11 Clutch unit	B	1																															
B14	2.2.12 Change lever assembly	B	3													1	2																	
B13	2.2.12 Direct gear	B	4													1	2	3																
–	2.2.12 Clutch gear	B	5													1	2	3	4															
–	2.2.12 Coupling gear (*2)	B	6													1	2	3	4	5														
B17	2.2.13 Link lever	B	1																															
B18	2.2.14 Cassette gear	B	2																		1													
B20	2.2.14 Control cam	B	2																		1													
B21	2.2.14 Worm gear	B	1																															
T10	- Lid guide	T/B	5									1	2	3								4												
B7	2.2.15 Control bracket1	B	1																															
B8	2.2.15 Control plate	B	6													1	2	3			4		5											
B5	2.2.16 Loading arm gear (supply side)	B	7													1	2	3			4		5	6										
B4	2.2.16 Loading arm gear (take-up side)	B	8													1	2	3			4		5	6	7									
–	2.2.16 Loading arm gear shaft	B	9													1	2	3			4		5	6	7	8								
B11	2.2.17 Take-up lever	T/B	7													1	2	3			4		5	6										
B10	2.2.17 Take-up head	T/B	8													1	2	3			4		5	6			7							
–	2.2.17 Control plate guide	T/B	8													1	2	3			4		5	6			7							
B3	2.2.18 Capstan brake assembly	T/B	7													1	2	3			4		5	6										
T14	2.2.19 Sub brake assembly(take-up side)	T/B	15	1	2	3	4	5	6	7	8					9	10	11			12		13	14										
T15	2.2.20 Main brake assembly(take-up side)	T/B	16	1	2	3	4	5	6	7	8					9	10	11			12		13	14				15						
T19	2.2.20 Main brake assembly(supply side)	T/B	9	1	2	3	4	5	6	7	8																							
T13	2.2.20 Reel disk (take-up side)	T/B	16	1	2	3	4	5	6	7	8					9	10	11			12		13	14				15						
T22	2.2.21 Tension brake assembly	T/B	9	1	2	3	4	5	6	7	8																							
T20	2.2.21 Reel disk (supply side)	T/B	10	1	2	3	4	5	6	7	8																				9			
T24	2.2.21 Tension arm assembly	T/B	10	1	2	3	4	5	6	7	8																				9			
B9	2.2.21 Tension arm bearing	T/B	10	1	2	3	4	5	6	7	8																				9			
T18	2.2.22 Idler lever	T/B	17	1	2	3	4	5	6	7	8					9	10	11			12		13	14							15	16		
T16	2.2.22 Idler arm assembly	T/B	18	1	2	3	4	5	6	7	8					9	10	11			12		13	14							15	16	17	
B19	- Brake lever (*1)	T/B	18	1	2	3	4	5	6	7	8					9	10	11			12		13	14				15	16	17				
B16	- Rotary encoder guide	T/B	19	1	2	3	4	5	6	7	8					9	10	11			12		13	14				15	16	17				18

Table 2-1-5b

Note:

- ***The parts with marked (*) have different types of mechanisms (standard type or high-speed FF/REW type).***
  ****1 : Uses the standard type mechanism only.***
  ****2 : Uses the high-speed FF/REW type mechanism only.***

2.2 REPLACEMENT OF MAJOR PARTS

2.2.1 Before Starting Disassembling (Phase matching between mechanical parts)

The mechanism of this unit is closely linked with the rotary encoder and system controller circuits.
Since the system controller detects the status of mechanical operation in response to phases of the rotary encoder (internal switch positions), the mechanism may not operate properly unless such parts as the rotary encoder, control plate, loading arm gear, control cam, cassette gear, limit gear, relay gear and drive gear are installed in their correct positions.
Especially, this model is not provided with any cassette housing assembly, so that cassette loading and unloading must be accomplished by operation of the cassette holder assembly. The latter is in turn driven by such parts as the drive gear, relay gear and limit gear. Exercise enough care, therefore, to have the phases of all this gear matching one another. (For information on phase matching of the mechanism, see the instructions on how to install individual parts.)
This unit is provided with a mechanism assembly mode. It is therefore necessary to enter this mode for assembling and disassembling procedures.
This mode is usually not in use, manually set it when it is required.

2.2.2 How to Set the Mechanism Assembling Mode

Remove the mechanism assembly and place it bottom side up. (See SECTION 1 DISASSEMBLY.) Turn the worm gear toward the front so that the guide hole of the control cam is brought into alignment with the hole at the mechanism assembly chassis. This position renders the mechanism assembling mode operational. Make sure that the control plate is located in alignment with the mark E. (See Fig.2-2-2a.)

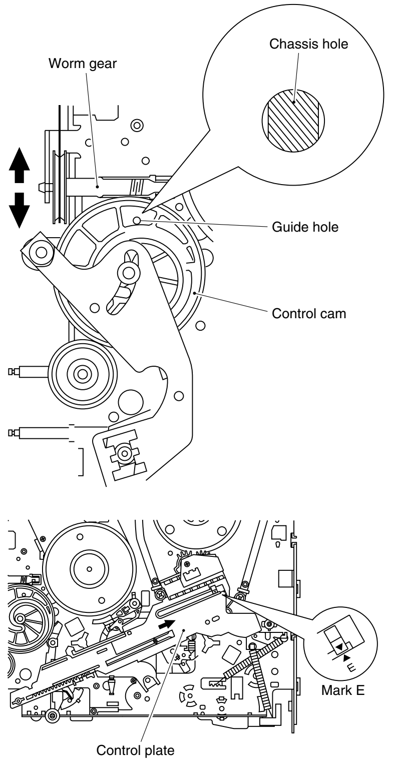

Chassis hole
Worm gear
Guide hole
Control cam
E
Mark E
Control plate

Fig. 2-2-2a

2.2.3 Cassette Holder Assembly

1. How to remove

(1) Remove the guide rail and roller cam assembly. (See Fig.2-2-3a.)
(3 lugs on the guide rail and one lug on the roller cam assembly)

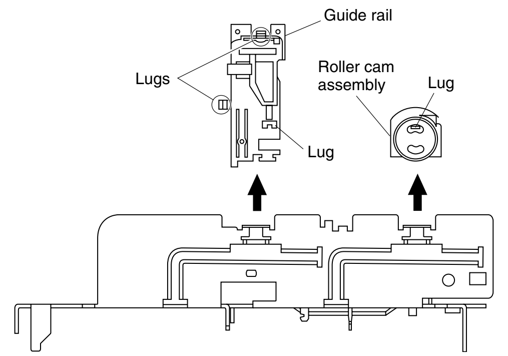

Guide rail
Lugs
Roller cam assembly
Lug
Lug

Fig. 2-2-3a

(2) Remove the two slit washers and remove the cassette housing bracket. (See Fig.2-2-3b.)
(3) Remove the opener guide, spring(A), door opener, relay gear and limit gear. (See Fig.2-2-3b.)

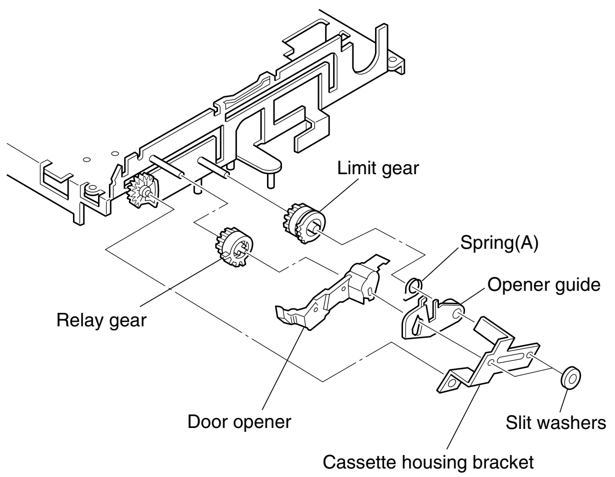

Limit gear
Spring(A)
Opener guide
Relay gear
Door opener
Slit washers
Cassette housing bracket

Fig. 2-2-3b

(4) While swinging the lock levers (R) and (L) of the cassette holder assembly toward the front, slide the cassette holder assembly until its legs come to where the guide rail and the roller cam assembly have been removed (so that the drive arm is upright). (See Fig.2-2-3c.)

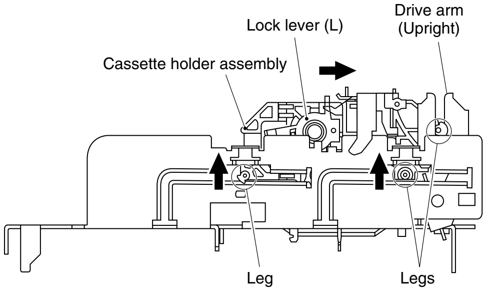

Drive arm (Upright)
Lock lever (L)
Cassette holder assembly
Leg
Legs

Fig. 2-2-3c

(5) While holding the left side of the cassette holder, lift the cassette holder assembly so that the three legs on the left side are all released. Then pull the legs Ⓐ and Ⓑ on the right side out of the rail and also pull up the leg Ⓒ. (See Fig.2-2-3d and Fig.2-2-3e.)

(6) Draw out the drive gear, and remove the drive arm.

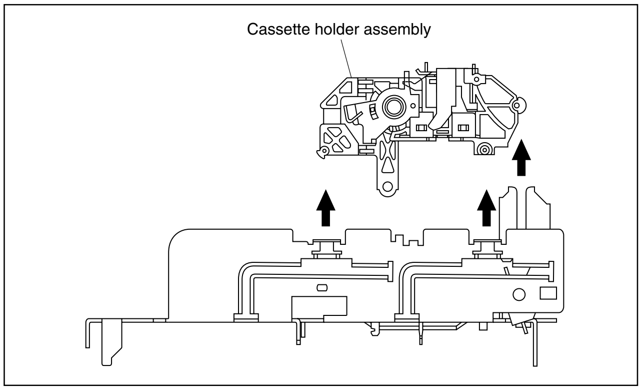

Cassette holder assembly

Fig. 2-2-3d

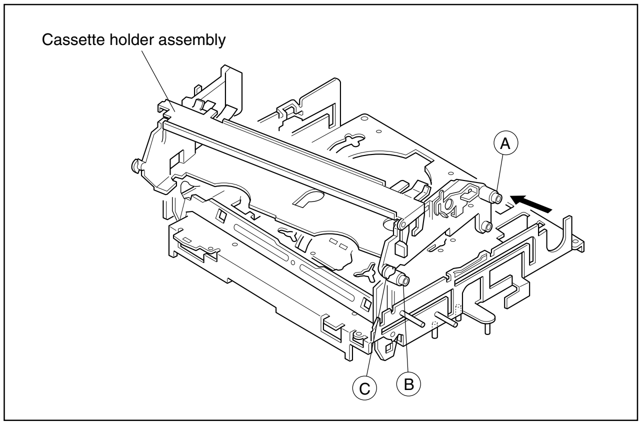

Cassette holder assembly
A
C
B

Fig. 2-2-3e

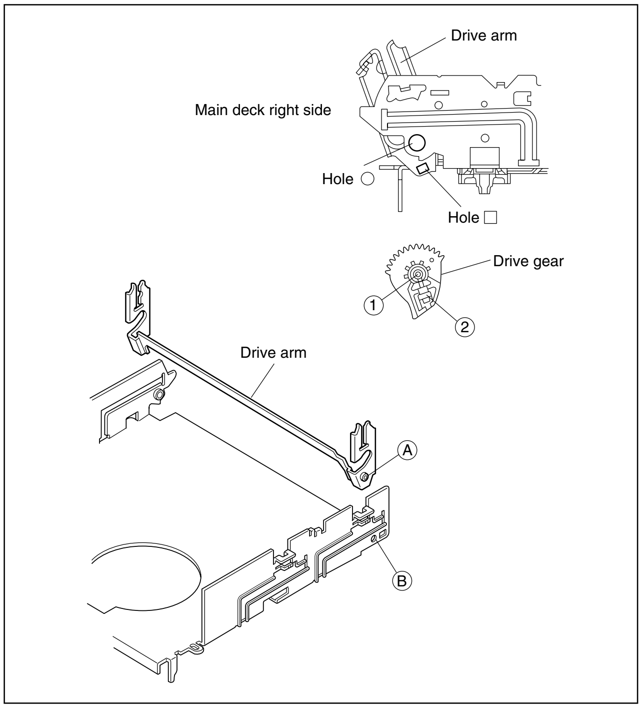

Drive arm
Main deck right side
Hole ○
Hole □
Drive gear
1
2
Drive arm
A
B

Fig. 2-2-3f

2. How to install (Phase matching)

(1) Insert the section Ⓐ of the drive arm into the section Ⓑ of the main deck.

(2) Insert the section ① of the drive gear into the round hole, and the section ② into the square hole on the drive arm. (See Fig.2-2-3f.)

(3) Hold the drive arm upright and fit the leg Ⓒ on the right side of the cassette holder assembly into the groove. (See Fig.2-2-3g.)

(4) While swinging the lock lever (R) of the cassette holder assembly toward the front, put the legs Ⓐ and Ⓑ into the rail. (See Fig.2-2-3g.)

(5) Drop the three legs on the left side of the cassette holder assembly into the groove at one time. (See Fig.2-2-3h.)

(6) Slide the whole cassette holder assembly toward the front to bring it to the eject end position.

(7) Install the limit gear so that the notch on the outer circumference of the limit gear is brought into alignment with the guide hole on the main deck. (See Fig.2-2-3i.)

(8) Install so that the notch on the periphery of the relay gear is aligned with the notch of the main deck and that hole A of the relay gear is aligned with the hole A of the limit gear and that hole B of the relay gear is aligned with the hole B of the drive gear. (See Fig.2-2-3i.)

(9) Install the door opener, opener guide, spring(A) and cassette housing bracket and fasten the two slit washers.

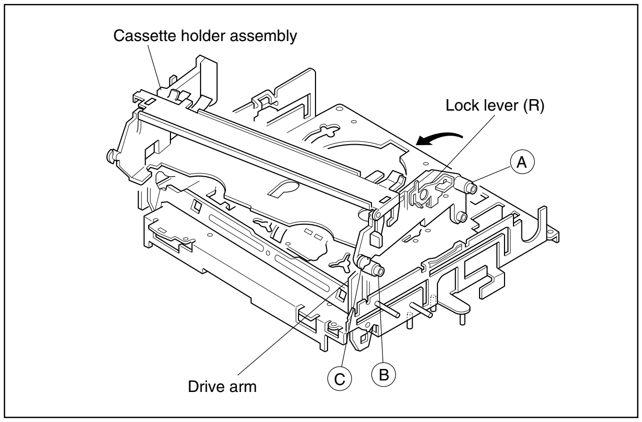

Cassette holder assembly
Lock lever (R)
A
Drive arm
C
B

Fig. 2-2-3g

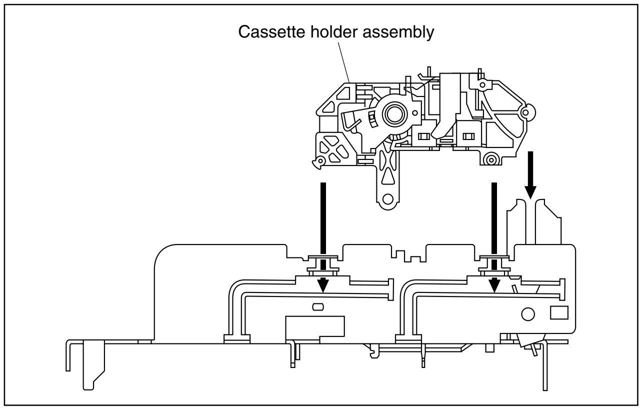

Cassette holder assembly

Fig. 2-2-3h

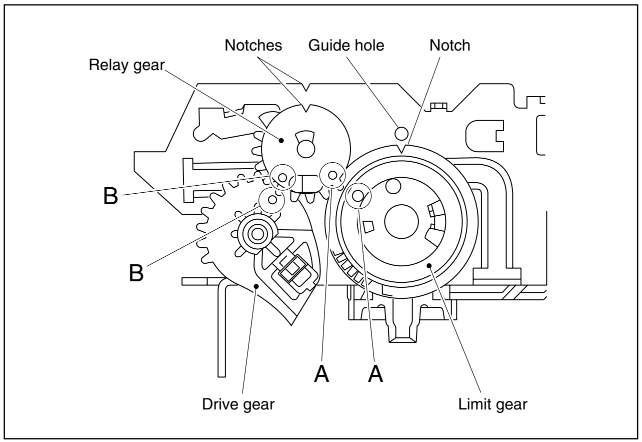

Notches
Guide hole
Notch
Relay gear
B
B
A
A
Drive gear
Limit gear

Fig. 2-2-3i

2.2.4 Pinch Roller Arm Assembly

1. How to remove

(1) Remove the spring from the hook of the press lever assembly.

(2) Remove the slit washer and remove the pinch roller seat 2. (See Fig.2-2-4a.)

(3) Remove the pinch roller arm assembly by pulling it up.

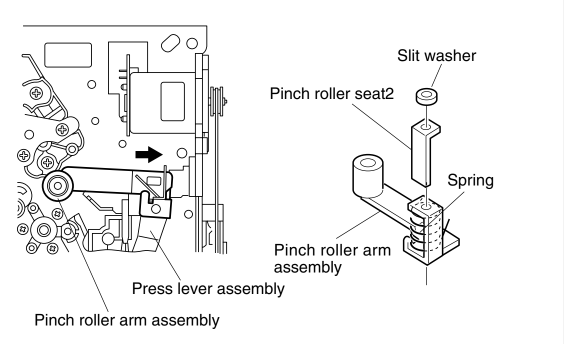

Slit washer
Pinch roller seat2
Spring
Pinch roller arm assembly
Press lever assembly
Pinch roller arm assembly

Fig. 2-2-4a

2.2.5 Guide Arm Assembly and Press Lever Assembly

1. How to remove

(1) Remove the spring and expand the lug of the lid guide in the arrow-indicated direction. Then remove the guide arm assembly by pulling it up.

(2) Remove the press lever assembly by pulling it up. (See Fig.2-2-5a.)

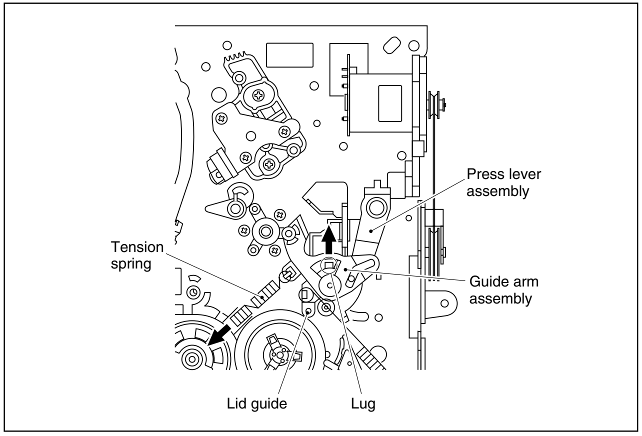

Press lever assembly
Tension spring
Guide arm assembly
Lid guide
Lug

Fig. 2-2-5a

2.2.6 Audio Control Head

1. How to remove

(1) Remove the two screws (A) and remove the audio control head together with the head base.

(2) When replacing only the audio control head, remove the three screws (B) while controlling the compression spring.

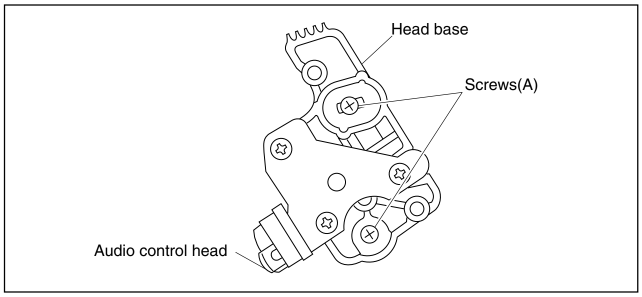

Head base
Screws(A)
Audio control head

Fig. 2-2-6a

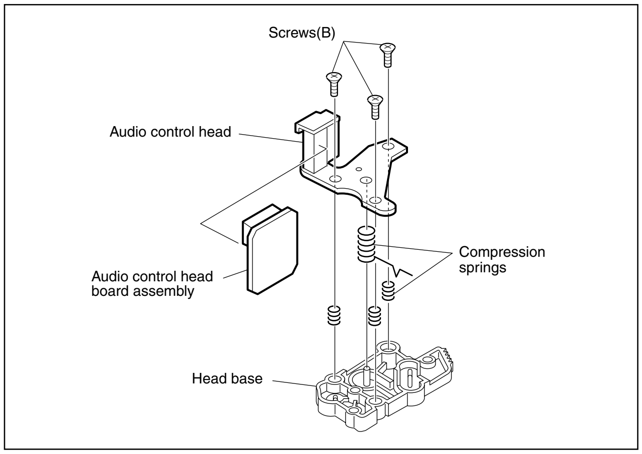

Screws(B)
Audio control head
Audio control head board assembly
Compression springs
Head base

Fig. 2-2-6b

2. How to install

(1) To make the post-installation adjustment easier, set the temporary level as indicated in Fig.2-2-6c. Also make sure that the screw center (centre) is brought into alignment with the center (centre) position of the slot.

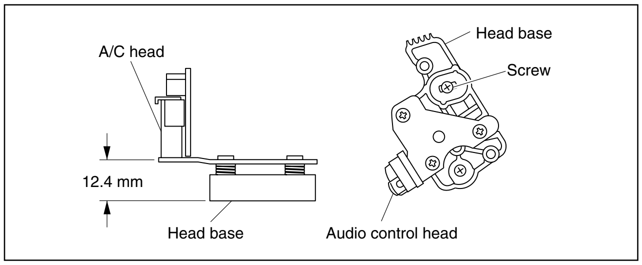

A/C head
12.4 mm
Head base
Head base
Screw
Audio control head

Fig. 2-2-6c

2.2.7 Loading Motor

1. How to remove

(1) Remove the belt wound around the worm gear.

(2) Open the two lugs of the motor guide and remove the loading motor, loading motor board assembly and motor guide altogether by pulling them up.

(3) When replacing the loading motor board assembly, take care with the orientation of the loading motor. (Install so that the loading motor label faces upward.)

(4) When the motor pulley has been replaced, choose the fitting dimension as indicated in Fig.2-2-7a.

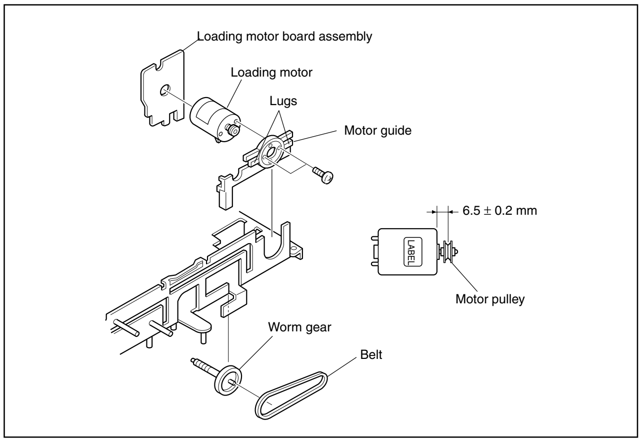


Fig. 2-2-7a

2.2.8 Capstan Motor

1. How to remove

(1) Remove the belt (capstan) on the mechanism assembly back side.
(2) Remove the three screws (A) and remove the capstan motor.

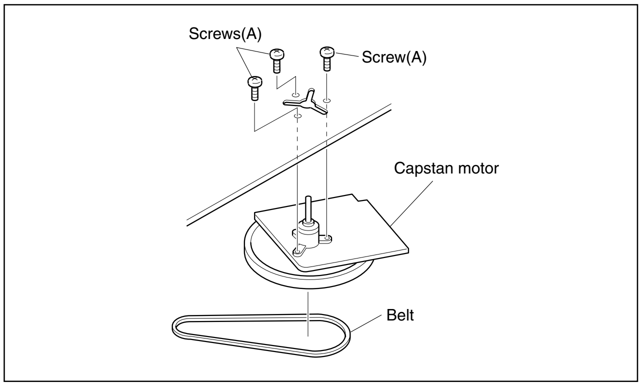


Fig. 2-2-8a

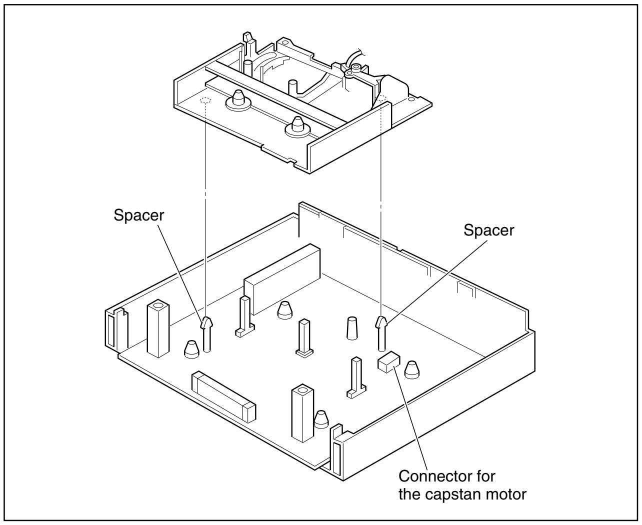


Fig. 2-2-8b

2. How to install (Centering the mounting position)

When the capstan motor has once been removed and then reinstalled out of the initial correct position in the rotational direction, the capstan motor current may be unstable during operation in high or low temperatures. This may result in greater Wow & Flutter and occasionally in power breakdown because of current over - load. Install the capstan motor while following the procedure given below.
(The capstan motor is centrally located when the unit is shipped from the factory.)

(1) Provisionally tighten the three screws (A) securing the capstan motor.
(2) Install the mechanism assembly to which the capstan motor is provisionally fastened on the bottom chassis which incorporates the Main board assembly. (No need to tighten the screws for mounting the mechanism.)
Make sure that all the connectors for the mechanism assembly and the Main board assembly are correctly installed as indicated in Fig. 2-2-8b.
(3) Making sure that the connector for the capstan motor is correctly mounted, and securely tighten the three screws (A).

Note:

- ***When the capstan motor has been replaced with a new one, perform recording in the EP(or LP) mode for at least 2 minutes at normal temperatures immediately before starting the FF/REW or SEARCH operations (Aging).***

2.2.9 Pole Base Assembly (supply or take-up side)

1. How to remove

(1) Remove the UV catcher 2 on the removal side by loosening the screw (A).
(2) Remove the pole base assembly on the supply side from the mechanism assembly by loosening the screw (B) on the mechanism assembly back side and sliding the pole base assembly toward the UV catcher 2.
(3) As for the pole base assembly on the take-up side, turn the pulley of the loading motor to lower the cassette holder because the screw (B) is hidden under the control plate. (See the "Procedures for Lowering the Cassette holder assembly" of 1.3 DISASSEMBLY/ASSEMBLY METHOD.) Further turn the motor pulley to move the cassette holder until the screw (B) is no longer under the control plate (in the half-loading position). Then remove it as done for the supply side by removing the screw (B).

Note:

- ***After reinstalling the Pole base assembly and the UV catcher2, be sure to perform compatibility adjustment.***

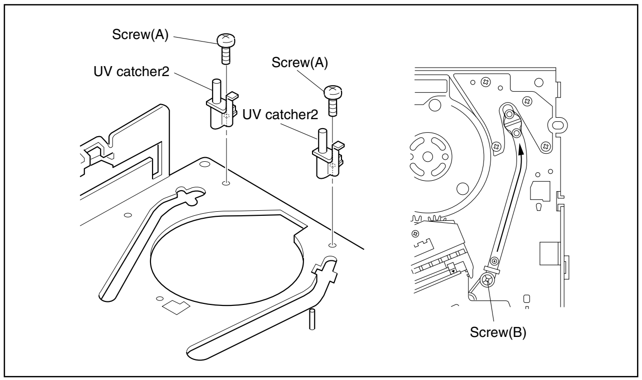


Fig. 2-2-9a

2.2.10 Rotary Encoder

1. How to remove

(1) Remove the screw (A) and remove the rotary encoder by pulling it up. (See Fig. 2-2-10a.)

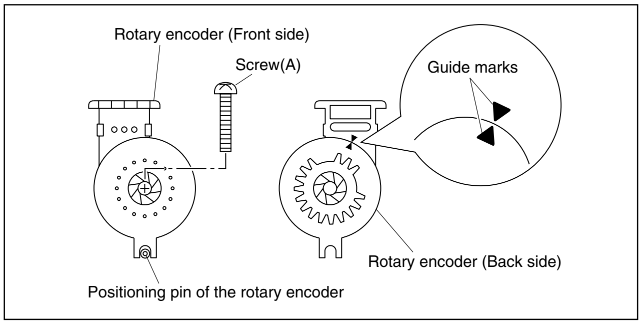

Rotary encoder (Front side)
Screw(A)
Guide marks
Rotary encoder (Back side)
Positioning pin of the rotary encoder

Fig. 2-2-10a

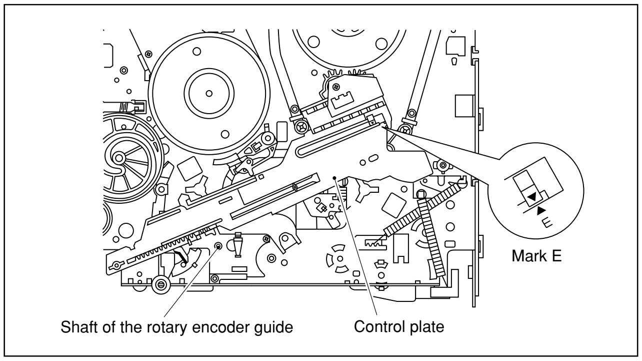

E
Mark E
Shaft of the rotary encoder guide
Control plate

Fig. 2-2-10b

2. How to install (Phase matching)

(1) Make sure that the mark E of the control plate is in alignment with the mark ▼ of the loading arm gear shaft and bring the guide marks on the rotary encoder into alignment as indicated in Fig.2-2-10a. (See Fig. 2-2-10a and Fig. 2-2-10b.)

(2) Turn over the rotary encoder with its guide marks kept in alignment and install it by fitting on the shaft of the rotary encoder guide and the positioning pin.

(3) Tighten the screw (A) to complete the installation.

2.2.11 Clutch Unit

(1) Remove the belt wound around the capstan motor and the clutch unit.

(2) Remove the slit washer and remove the clutch unit.

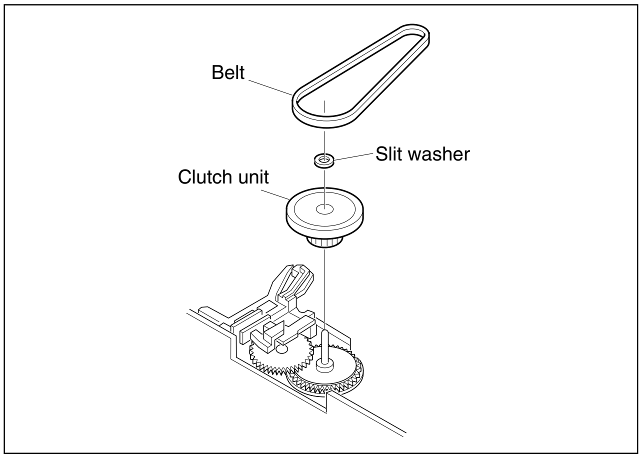

Belt
Slit washer
Clutch unit

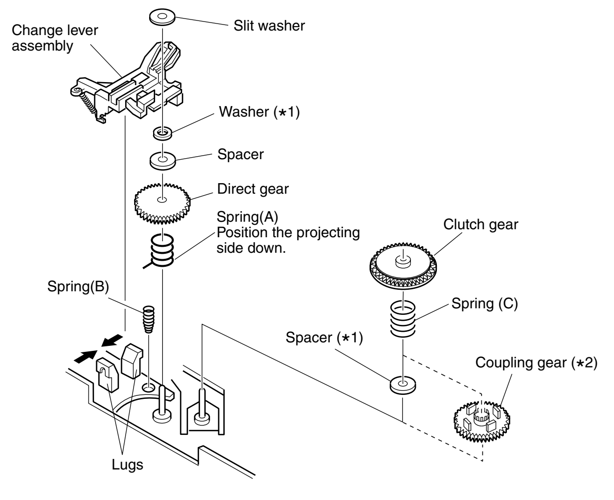
Fig. 2-2-11a

2.2.12 Change Lever Assembly, Direct Gear, Clutch Gear and Coupling Gear

1. How to remove

(1) Release the two lugs of the rotary encoder guide in the arrow-indicated direction and remove the change lever assembly.

(2) Remove the slit washer retaining the direct gear and remove the latter.
Take care so as not to lose the washer and spring. (See Fig.2-2-12a.)


Change lever assembly
Slit washer
Washer (⋆1)
Spacer
Direct gear
Spring(A)
Position the projecting side down.
Clutch gear
Spring(B)
Spring (C)
Spacer (⋆1)
Coupling gear (⋆2)
Lugs

Note:

- The parts with marked (⋆) have different types of mechanisms (standard type or high-speed FF/REW type).

⋆1 : Uses the standard type mechanism only.
⋆2 : Uses the high-speed FF/REW type mechanism only.

Fig. 2-2-12a

2. How to install

(1) Install the clutch gear, spring (A), spring (C), direct gear, spacer and others to the individual shafts of the main deck, and finally the slit washer. (See Fig.2-2-12a.)

(2) Let the spring (B) drops into the rotary encoder guide hole and install the change lever assembly.(Take care not to mistake a direction of the spring.) The point is to slightly lift the clutch gear and catch it from the both sides with the assembly. (See Fig.2-2-12b.)

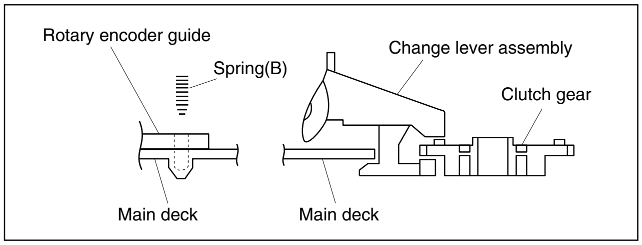

Rotary encoder guide
Spring(B)
Change lever assembly
Clutch gear
Main deck
Main deck

Fig. 2-2-12b

2.2.13 Link Lever

1. How to remove

(1) Remove the two slit washers.
(2) Remove the link lever by lifting it from the shaft retained by the slit washers. Then swing the link lever counterclockwise and remove it from the locking section of the control plate.

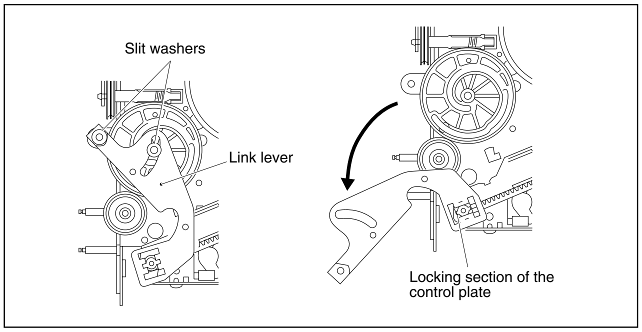

Slit washers
Link lever
Locking section of the control plate

Fig. 2-2-13a

2. How to install (Phase matching)

(1) Slide the control plate so that its mark E is aligned with the mark ▼ on the loading arm gear shaft. (See Fig.2-2-13b.)
(2) Rotate the worm gear until the guide hole of the control cam is aligned exactly with the guide hole of the main deck. (See Fig.2-2-13c.)
(3) Insert the link lever into the locking section of the control plate. (See Fig.2-2-13a.)
(4) Rotate the link lever clockwise so that it is installed on the shafts in the center (centre) and on the left of the control cam.
(5) Fasten the slit washers at these two points.

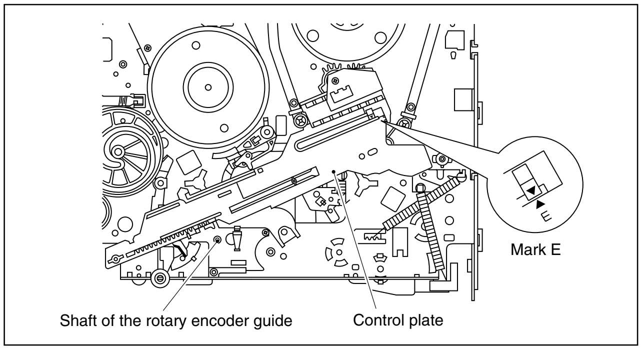

E
Mark E
Shaft of the rotary encoder guide
Control plate

Fig. 2-2-13b

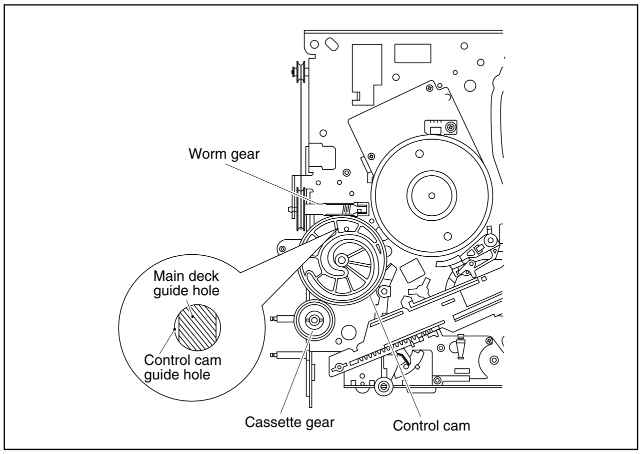

Worm gear
Main deck guide hole
Control cam guide hole
Cassette gear
Control cam

Fig. 2-2-13c

2.2.14 Cassette Gear, Control Cam and Worm Gear

1. How to remove

(1) Remove the control cam by lifting it.
(2) Open the two lugs of the cassette gear outward and pull the latter off.
(3) Remove the belt wound around the worm gear and the loading motor.
(4) Open the lug of the lid guide outward and remove the worm gear.

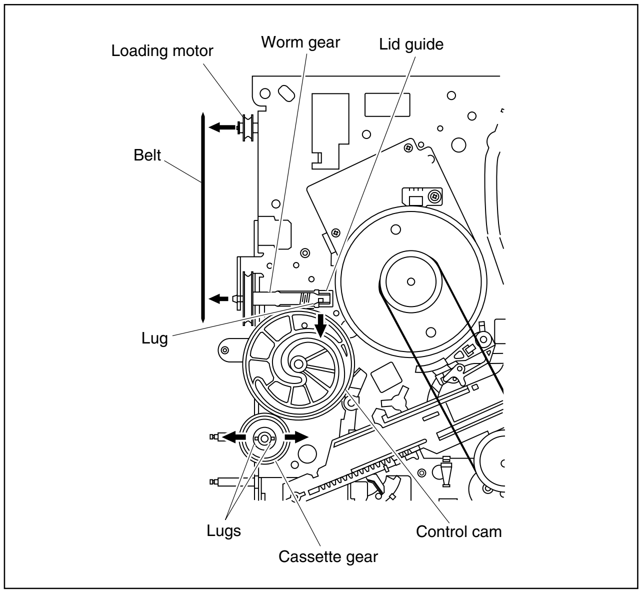

Loading motor
Worm gear
Lid guide
Belt
Lug
Lugs
Control cam
Cassette gear

Fig. 2-2-14a

2.2.15 Control Plate

1. How to remove

(1) Remove the screw (A) retaining the control bracket 1 and remove the latter.
(2) Slide the control plate as indicated by the arrow and remove the control plate. (See Fig.2-2-15a.)

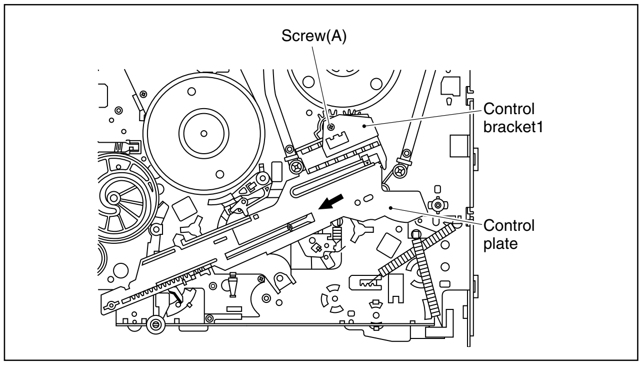

Screw(A)
Control bracket1
Control plate

Fig. 2-2-15a

2. How to install (Phase matching)

(1) Adjust the position of the idler arm assembly pin as indicated in Fig.2-2-15b (to the left of center (centre) of the R section).
(2) Bring the guide hole of the take-up lever into alignment with the hole at the control plate guide and fix the position by inserting a 1.5 mm hexagonal wrench.

(3) Install the control plate so that the section A of the loading arm gear shaft fits into the hole (A) of the control plate, the section B of the control plate guide into the hole (B), and the control plate comes under the section C of the rotary encoder guide and the section D of the loading arm gear shaft while press-fit the pole base assmebly (supply side) as indicated by the arrow. It is important that the tension arm assembly shaft is positioned closer toward you than the control plate. (See Fig.2-2-15c.)

(4) Make sure that the mark E of the control plate is in alignment with the mark ▼ of the loading arm gear shaft. (See Fig.2-2-15c.)

(5) Pull off the hexagonal wrench for positioning.

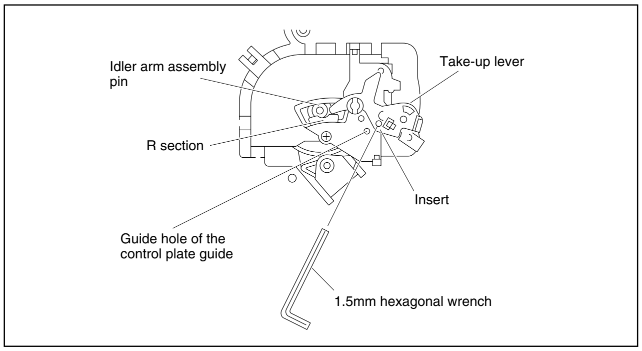

Idler arm assembly pin
Take-up lever
R section
Insert
Guide hole of the control plate guide
1.5mm hexagonal wrench

Fig. 2-2-15b

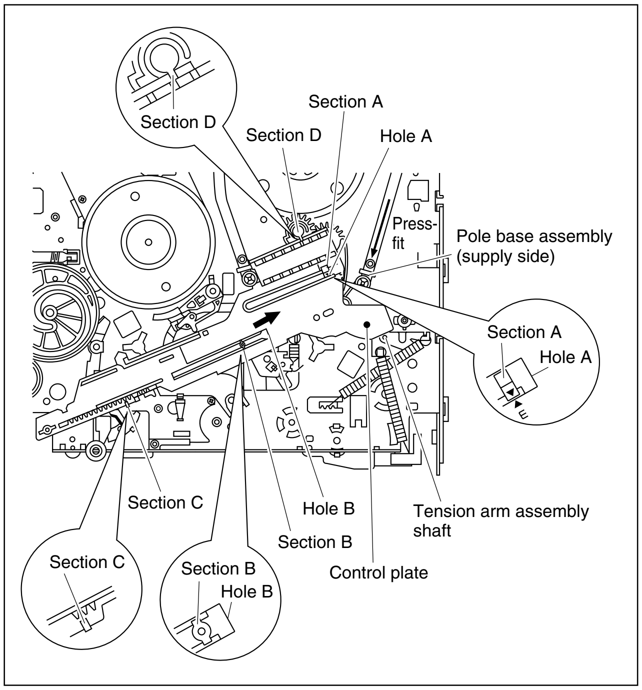

Section D
Section A
Section D
Hole A
Press-fit
Pole base assembly (supply side)
Section A
Hole A
E
Section C
Hole B
Tension arm assembly shaft
Section B
Control plate
Section C
Section B
Hole B

Fig. 2-2-15c

2.2.16 Loading Arm Gear (supply or take-up side) and Loading Arm Gear Shaft

1. How to remove

(1) Remove the loading arm gear (supply side) by loosening the screw (A). (See Fig. 2-2-16a.)

(2) Remove the screw (B) and remove the torsion arm from the pole base assembly (take-up side). (See Fig.2-2-16a.)

(3) Turn the loading arm gear (take-up side) clockwise so that the notch of the loading arm gear (take-up side) is in alignment with the projection of the loading arm gear shaft and lift it.
Likewise, turn the loading arm counterclockwise so that the notch is in alignment with the projection and remove the loading arm gear (take-up side). (See Fig.2-2-16a and Fig. 2-2-16b.)

(4) When removing the loading arm gear shaft, be sure of first removing the screw retaining the drum assembly (on the back side of the loading arm gear shaft). Then remove the screw (C) and remove the loading arm gear shaft by sliding it.

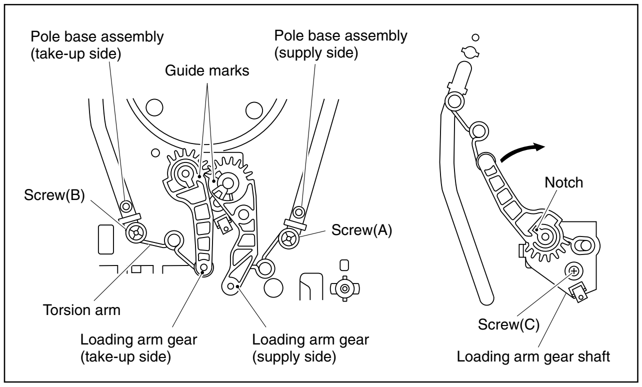

Pole base assembly (take-up side)
Guide marks
Pole base assembly (supply side)
Screw(B)
Notch
Screw(A)
Torsion arm
Screw(C)
Loading arm gear (take-up side)
Loading arm gear (supply side)
Loading arm gear shaft

Fig. 2-2-16a

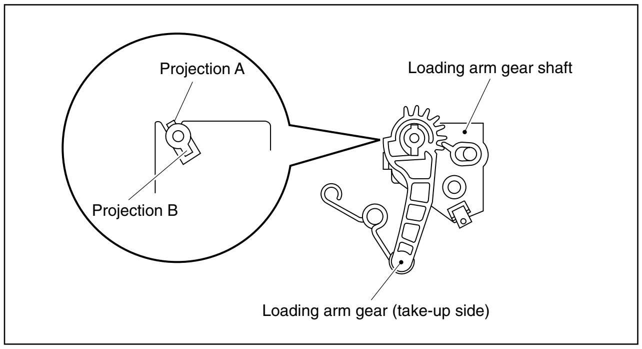

Projection A
Loading arm gear shaft
Projection B
Loading arm gear (take-up side)

Fig. 2-2-16b

2. How to install

(1) Align the notch of the loading arm gear (take-up side) to the projection B of the loading arm gear shaft and slip it over. Then rotate it clockwise for alignment with the projection A and slip it down to the bottom. (See Fig.2-2-16b.)

(2) Then turn the loading arm gear (take-up side) counterclockwise. Hang the torsion arm on the pole base assembly (take-up side) and tighten the screw (B).

(3) Install the loading arm gear (supply side) so that the guide mark of the loading arm gear (take-up side) is in alignment with the guide mark of the loading arm gear (supply side). Then hang the torsion arm on the pole base assembly (supply side) and tighten the screw (A). (See Fig.2-2-16a.)

2.2.17 Take-up Lever, Take-up Head and Control Plate Guide

(1) Remove the spring of the take-up lever from the main deck.
(2) Remove the lug (A) of the take-up lever from the main deck and pull out the take-up lever and the take-up head together.
(3) Remove the screw (A).
(4) Align the idler arm assembly pin in the center (centre) of the R section of the control plate guide, remove the control plate guide lugs (B) and (C) from the main deck, and remove the control plate guide.

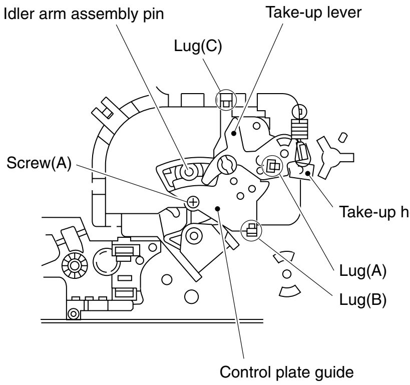

Idler arm assembly pin
Take-up lever
Lug(C)
Screw(A)
Take-up head
Lug(A)
Lug(B)
Control plate guide

Fig. 2-2-17a

2.2.18 Capstan Brake Assembly

1. How to remove

(1) Move the lug (A) of the capstan brake assembly in the arrow-indicated direction so that it comes into alignment with the notch of the main deck. (See Fig. 2-2-18a.)
(2) Remove the lug (B) of the capstan brake assembly from the main deck and remove the capstan brake assembly.

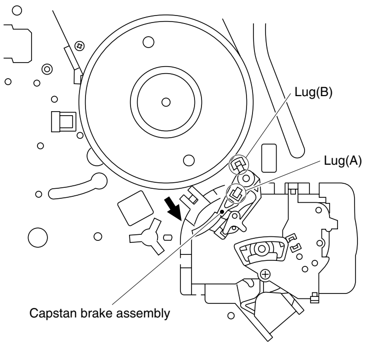

Lug(B)
Lug(A)
Capstan brake assembly

Fig. 2-2-18a

2.2.19 Sub Brake Assembly (take-up side)

1. How to remove

(1) Remove the spring attached to the lid guide and sub brake assembly (take-up side).
(2) Bring the lug (A) of the sub brake assembly (take-up side) into alignment with the notch of the main deck.
(3) Remove the lugs (B) and (C) of the sub brake assembly (take-up side) from the main deck and remove the sub brake assembly (take-up side).

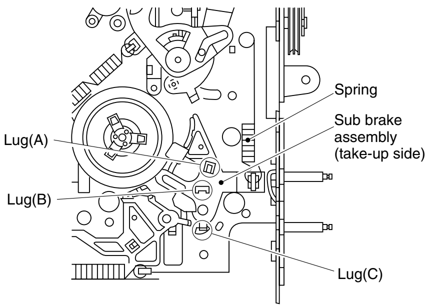

Spring
Sub brake assembly (take-up side)
Lug(A)
Lug(B)
Lug(C)

Fig. 2-2-19a

2.2.20 Main Brake Assembly (take-up side), Reel Disk (take-up side) and Main Brake Assembly (supply side)

1. How to remove

(1) Move the main brake assembly (take-up side) in the arrow-indicated direction and remove the reel disk (take-up side).
(2) Remove the spring attached to the main brake assembly.
(3) Remove the lug (A) of the main brake assembly (take-up side) and pull out the lug (B) after bringing it into alignment with the main deck notch.
(4) Remove the lugs (C), (D) and (E) of the main brake assembly (supply side) from the main deck and pull them off. (See Fig.2-2-20a.)
(5) When installing the main brake assembly (take-up side), slide the brake lever in the direction as indicated by the arrow to prevent it from hitting the projection of the main brake assembly (take-up side). (See Fig.2-2-20b.)

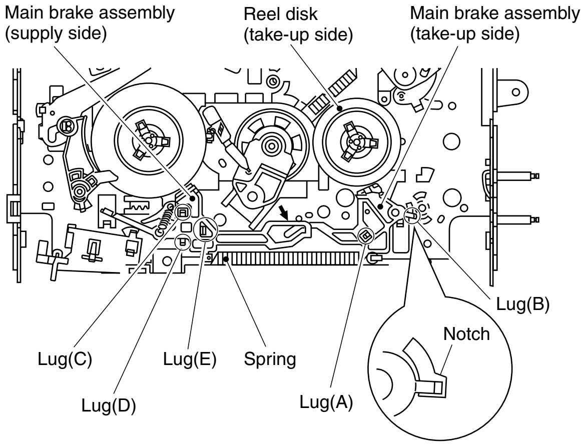
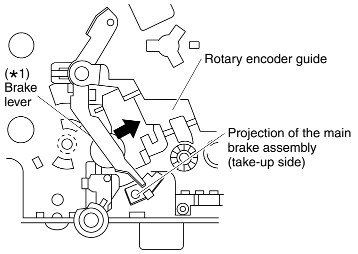

Main brake assembly (supply side)
Reel disk (take-up side)
Main brake assembly (take-up side)
Lug(B)
Notch
Lug(C)
Lug(E)
Spring
Lug(D)
Lug(A)

Fig. 2-2-20a


Rotary encoder guide
(⋆1) Brake lever
Projection of the main brake assembly (take-up side)

Note:

- ***The parts with marked (⋆) have different types of mechanisms (standard type or high-speed FF/REW type).***

⋆1 : Uses the standard type mechanism only.

Fig. 2-2-20b

2.2.21 Tension Brake Assembly, Reel Disk (supply side) and Tension Arm Assembly

1. How to remove

(1) Remove the three lugs of the tension brake assembly from the main deck and pull them off.

(2) Remove the reel disk (supply side) by loosening in the arrow-indicated direction the main brake assembly (supply side).

(3) Remove the tension spring on the back of the main deck. Then release the lug of the tension arm bearing in the arrow-indicated direction and draw out the tension arm assembly. (See Fig. 2-2-21a.)

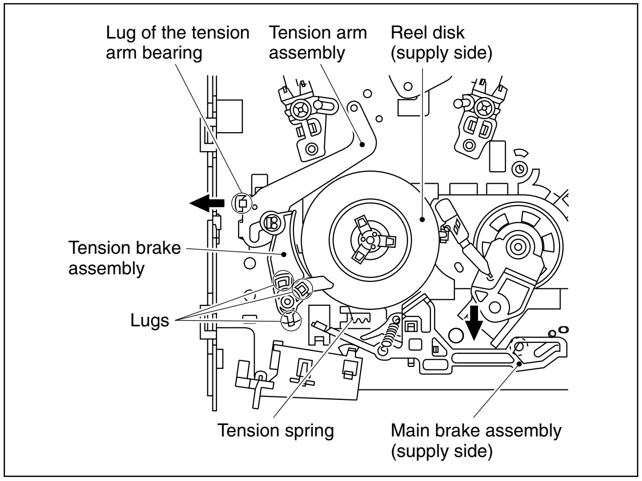

Lug of the tension arm bearing
Tension arm assembly
Reel disk (supply side)
Tension brake assembly
Lugs
Tension spring
Main brake assembly (supply side)

Fig. 2-2-21a

2.2.22 Idler Lever, Idler Arm Assembly

1. How to remove

(1) Remove the lug of the idler lever from the main deck and remove the hook fitted in the idler arm assembly hole by lifting it.

(2) Remove the slit washer and pull out the idler arm assembly.

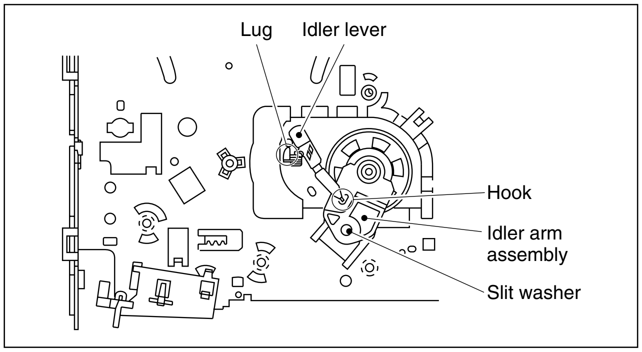

Lug
Idler lever
Hook
Idler arm assembly
Slit washer

Fig. 2-2-22a

2.2.23 Stator Assembly

(1) Remove the flat cable.

(2) Remove the two screws (A).

(3) Remove the stator assembly by lifting in the arrow-indicated direction. (Take care that the brush spring does not jump out.)

(4) After installation, be sure to perform the PB switching point adjustment according to the electrical adjustment procedure.

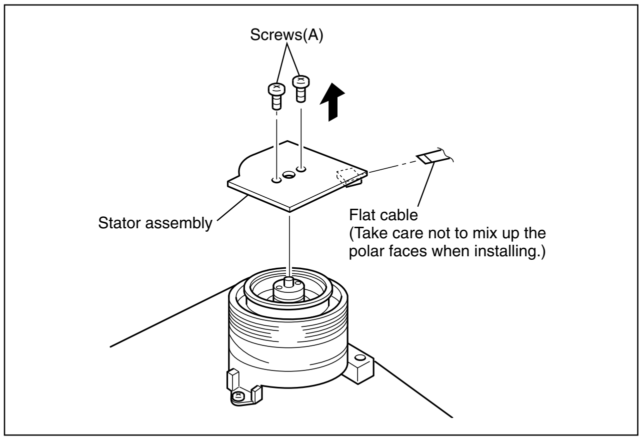

Screws(A)
Stator assembly
Flat cable
(Take care not to mix up the polar faces when installing.)

Fig. 2-2-23a

2.2.24 Rotor Assembly

(1) Remove the stator assembly.

(2) Remove the two screws (B) and remove the rotor assembly.

Note:

- ***When installing the rotor assembly, note that a normal picture cannot be obtained without ensuring the phase matching as mentioned below.***

(3) Match the phases of the upper drum assembly and the rotor assembly as indicated in Fig.2-2-24a.

(4) Place the upper drum assembly hole (a) over the rotor assembly holes (b) (with three holes to be aligned) and tighten the two screws (B). (See Fig.2-2-24a.)

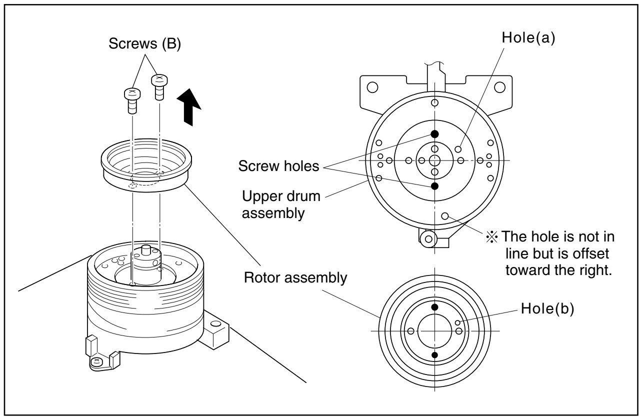

Screws (B)
Hole(a)
Screw holes
Upper drum assembly
※ The hole is not in line but is offset toward the right.
Rotor assembly
Hole(b)

Fig. 2-2-24a

2.2.25 Upper Drum Assembly

1. How to remove

(1) Remove the stator assembly and rotor assembly.
(2) Loosen the screw of the collar assembly using a 1.5 mm hexagonal wrench and remove the collar assembly. Also remove the brush, spring and cap at one time.
(3) Remove the upper drum assembly and remove the washer using tweezers.

Note:

- ***When replacement is required, control the up- down movement of the brush. Never apply grease.***

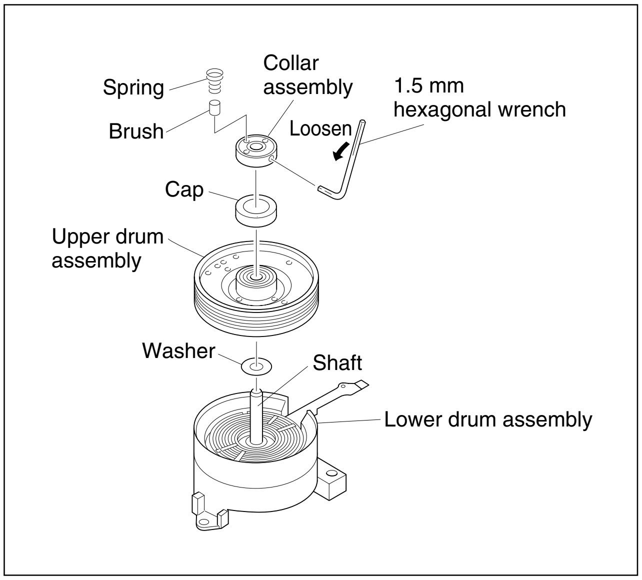

Spring
Collar assembly
1.5 mm hexagonal wrench
Brush
Loosen
Cap
Upper drum assembly
Washer
Shaft
Lower drum assembly

Fig. 2-2-25a

2. How to install

(1) Clean the coil parts of the lower drum assembly and the newly installed upper drum assembly with an air brush in advance. (See Fig.2-2-25b.)
(2) Install a new washer and upper drum assembly on the drum shaft. (See Fig.2-2-25a.)

Note:

- ***When replacing the upper drum assembly, replace it the together with the washer.***

(3) Install the cap to the upper drum assembly.
(4) Position the collar assembly as indicated in Fig.2-2-25c while controlling its up- down movement.
(5) Secure the collar assembly in position with a hexagonal wrench while pressing its top with the fingers.
(6) After installation, gently turn the upper drum assembly with your hand to make sure that it turns normally. Then install the brush and the spring.
(7) Install the rotor assembly and stator assembly according to Fig 2-2-23a and 2-2-24a.
(8) When installation is complete, clean the upper drum assembly and lower drum assembly and carry out the following adjustments.

- PB switching point adjustment
- Slow tracking adjustment
- Compatibility adjustment (Be sure to check for compatibility for the EP (or LP) mode.)

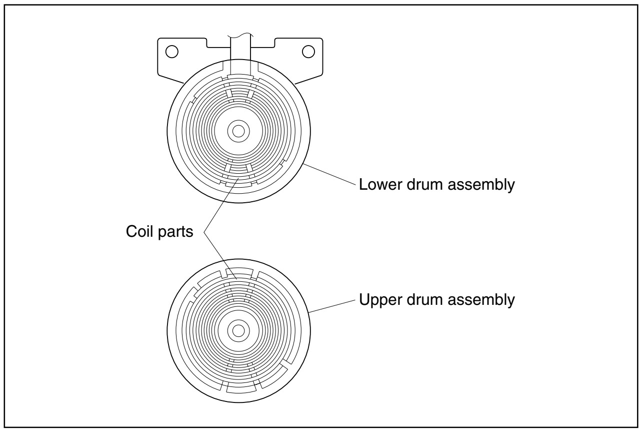

Lower drum assembly
Coil parts
Upper drum assembly

Fig. 2-2-25b

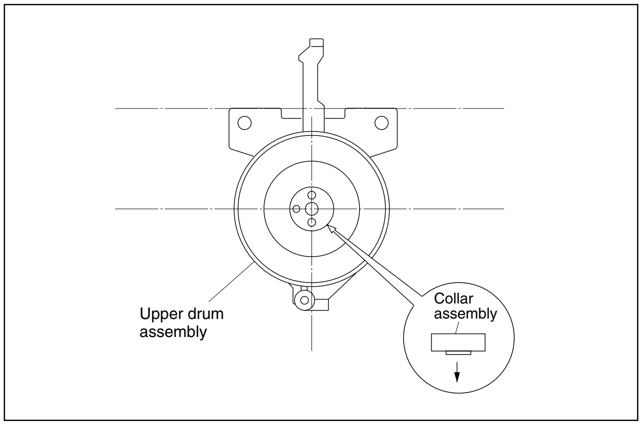

Upper drum assembly
Collar assembly

Fig. 2-2-25c

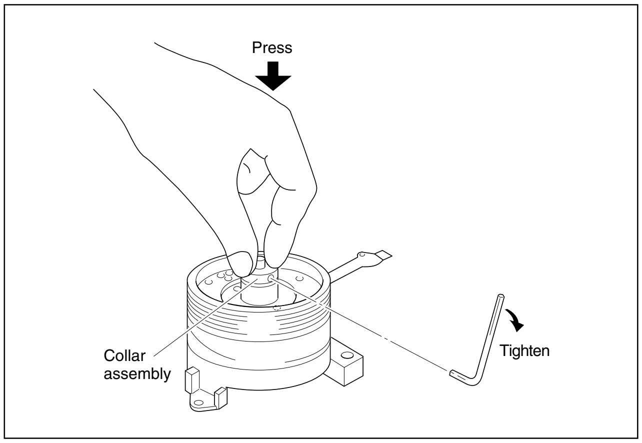

Press
Collar assembly
Tighten

Fig. 2-2-25d

2.3 COMPATIBILITY ADJUSTMENT

Notes:

- ***Although compatibility adjustment is very important, it is not necessary to perform this as part of the normal servicing work. It will be required when you have replaced the audio control head, drum assembly or any part of the tape transport system.***
- ***To avoid any damage to the alignment tape while performing the compatibility adjustment, get a separate cassette tape (for recording and play back) ready to be used for checking the initial tape running behavior.***
- ***Unless otherwise specified, all measuring points and adjustment parts are located on the Main board.***
- ***When using the Jig RCU, set its custom code to match the custom code of the VCR.***

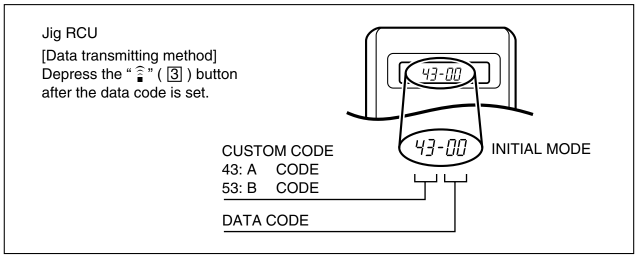

Jig RCU
[Data transmitting method]
Depress the " " (3) button
after the data code is set.
43-00
43-00
INITIAL MODE
CUSTOM CODE
43: A CODE
53: B CODE
DATA CODE

Fig. 2-3a Jig RCU [PTU94023B]

2.3.1 Checking/Adjustment of FM Waveform Linearity

Signal	(A1) (A2)	• Alignment tape(SP, stairstep, PAL) [MHPE] • Alignment tape(LP, stairstep, PAL) [MHPE-L]
Mode	(B)	• PB
Equipment	(C)	• Oscilloscope
Measuring point	(D)	• TP106 (PB. FM)
External trigger	(E)	• TP111 (D.FF)
Adjustment part	(F)	• Guide roller [Mechanism assembly]
Specified value	(G)	• Flat V.PB FM waveform
Adjustment tool	(H)	• Roller driver [PTU94002]

(1) Play back the alignment tape (A1).

(2) Apply the external trigger signal to D.FF (E), to observe the V.PB FM waveform at the measuring point (D).

(3) Press the channel buttons (+, –) simultaneously to enter the manual tracking mode. This also brings tracking to the center (centre).

(4) Make sure that there is no significant level drop of the V.PB FM waveform caused by the tracking operation, with its generally parallel and linear variation ensured. Perform the following adjustments when required. (See Fig. 2-3-1a.)

(5) Reduce the V.PB FM waveform while pressing the channel buttons (+, –) during playback. If a drop in level is found on the left side, turn the guide roller of the pole base assembly (supply side) with the roller driver to make the V.PB FM waveform linear.
If a drop in level is on the right side, likewise turn the guide roller of the pole base assembly (take-up side) with the roller driver to make it linear. (See Fig. 2-3-1c.)

(6) Make sure that the V.PB FM waveform varies in parallel and linearly with the tracking operation again. When required, perform fine-adjustment of the guide roller of the pole base assembly (supply or take-up side).

(7) Unload the cassette tape once, play back the alignment tape (A1) again and confirm the V.PB FM waveform.

(8) After adjustment, confirm that the tape wrinkling does not occur at the roller upper or lower limits. (See Fig. 2-3-1d.)

[Perform adjustment step (9) only for the models equipped with SP mode and EP (or LP) mode.]

(9) Repeat steps (1) to (8) by using the alignment tape (A2).

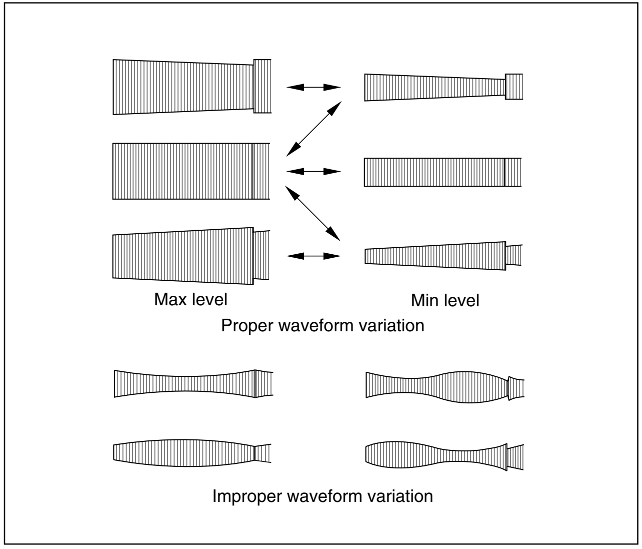


Fig. 2-3-1a

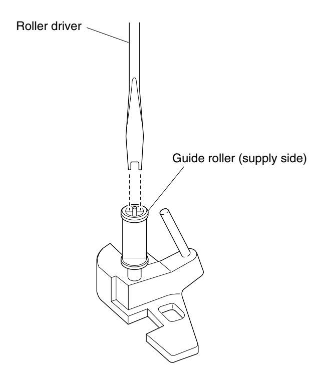


Fig. 2-3-1b

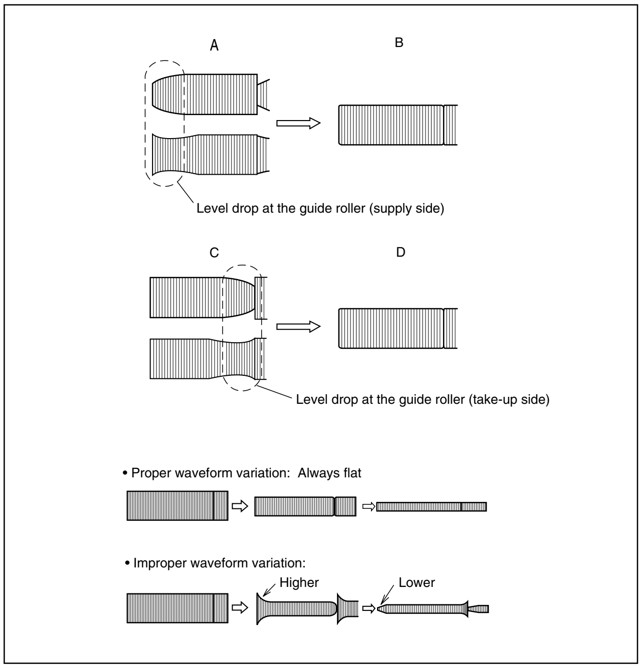

A
B
Level drop at the guide roller (supply side)
C
D
Level drop at the guide roller (take-up side)
• Proper waveform variation: Always flat
• Improper waveform variation:
Higher
Lower

Fig. 2-3-1c

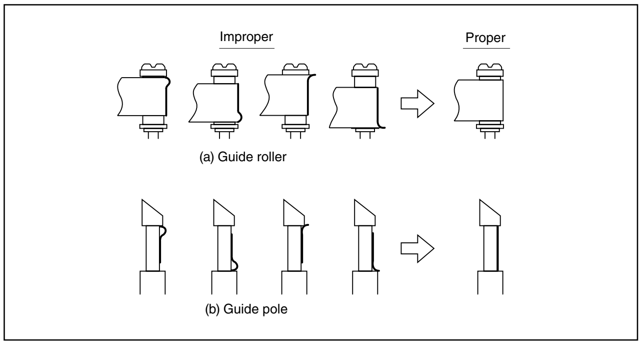

Improper
Proper
(a) Guide roller
(b) Guide pole

Fig. 2-3-1d

2.3.2 Checking/Adjustment of the Height and Tilt of the Audio Control Head

Note:

- ***Set a temporary level of the height of the A/C head in advance to make the adjustment easier after the A/C head has been replaced. (See Fig.2-2-6c.)***

Signal	(A)	• Alignment tape(SP, stairstep, PAL) [MHPE]
Mode	(B)	• PB
Equipment	(C)	• Oscilloscope
Measuring point	(D1) (D2)	• AUDIO OUT terminal • TP4001 (CTL. P)
External trigger	(E)	• TP111 (D.FF)
Adjustment part	(F)	• A/C head [Mechanism assembly]
Specified value	(G)	• Maximum waveform

(1) Play back the alignment tape (A).

(2) Apply the external trigger signal to D.FF (E), to observe the AUDIO OUT waveform and Control pulse waveform at the measuring points (D1) and (D2) in the ALT mode.

(3) Press the channel buttons (+, –) simultaneously to enter the manual tracking mode. This also brings tracking to the center (centre).

(4) Adjust the AUDIO OUT waveform and Control pulse waveform by turning the screws (1), (2) and (3) little by little until both waveforms reach maximum. The screw (1) and (3) are for adjustment of tilt and the screw (2) for azimuth.

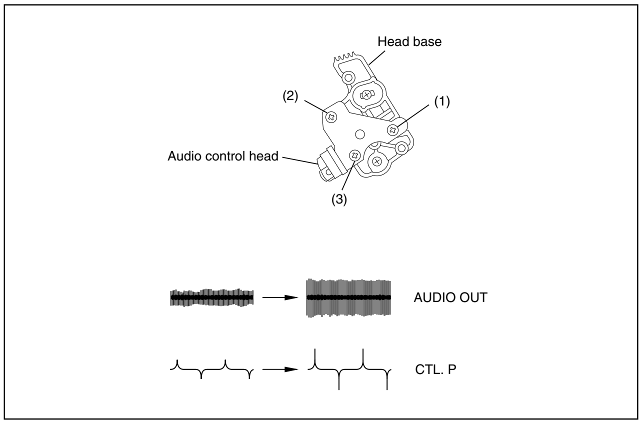

Head base
(2)
(1)
Audio control head
(3)
AUDIO OUT
CTL. P

Fig. 2-3-2a

2.3.3 Checking/Adjustment of the Audio Control Head Phase (X-Value)

Signal	(A1)	• Alignment tape(SP, stairstep, PAL) [MHPE]
Mode	(B)	• PB
Equipment	(C)	• Oscilloscope
Measuring point	(D)	• TP106 (PB. FM)
External trigger	(E)	• TP111 (D.FF)
Adjustment part	(F)	• A/C head base [Mechanism assembly]
Specified value	(G)	• Maximum V.PB FM waveform
Adjustment tool	(H)	• A/C head positioning tool [PTU94010]

(1) Play back the alignment tape (A1).

(2) Apply the external trigger signal to D.FF (E), to observe the V.PB FM waveform at the measuring point (D).

(3) Press the channel buttons (+, –) simultaneously to enter the manual tracking mode. This also brings tracking to the center (centre).

(4) Loosen the screws (4) and (5), then set the A/C head positioning tool to the innermost projected part of the A/C head. (See Fig. 2-3-3a.)

(5) Turn the A/C head positioning tool fully toward the capstan. Then turn it back gradually toward the drum and stop on the second peak point position of the V.PB FM waveform output level. Then tighten the screws (4) and (5).

(6) Perform the tracking operation and make sure that the V.PB FM waveform is at its maximum.
If it is not at maximum, loosen the screws (4) and (5), and turn the A/C head positioning tool to bring the A/C head to a position, around where the waveform reaches its maximum for the first time. Then tighten the screws (4) and (5).

[Perform adjustments steps (7) to (10) only for 2 Head models equipped with LP mode.]

(7) Then play back the alignment tape (A2).
(8) Press the channel buttons (+, –) simultaneously to enter the manual tracking mode. This also brings tracking to the center (centre).
(9) Perform the tracking operation and make sure that the V.PB FM waveform is at its maximum.
(10) If it is not at maximum, loosen the screws (4) and (5), and turn the A/C head positioning tool to bring the A/C head to a position, around where the waveform reaches its maximum for the first time. Then tighten the screws (4) and (5).

Note:

- ***After adjusting, always perform the confirmation and re-adjustment of the item 2.3.4.***

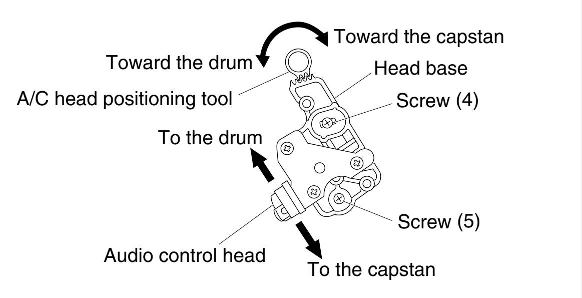


Fig. 2-3-3a

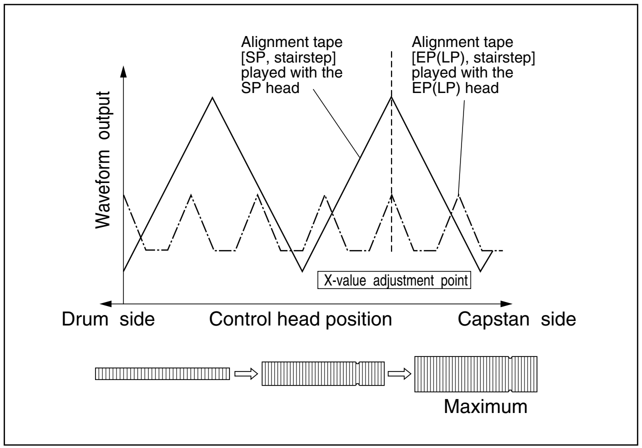


Fig. 2-3-3b

2.3.4 Checking/Adjustment of the Standard Tracking Preset

Signal	(A)	• Alignment tape(LP, stairstep, PAL) [MHPE-L]
Mode	(B)	• PB → Auto adjust
Equipment	(C)	• Oscilloscope
Measuring point	(D)	• TP106 (PB. FM)
External trigger	(E)	• TP111 (D.FF)
Adjustment part	(F)	• Jig RCU: Code “50”
Specified value	(G)	• STOP mode (Maximum V.PB FM waveform)
Adjustment tool	(H)	• Jig RCU [PTU94023B]

(1) Play back the alignment tape (A).
(2) Apply the external trigger signal to D.FF (E), to observe the V.PB FM waveform at the measuring point (D).
(3) Confirm that the automatic tracking operation is completed.
(4) Set the VCR to the Auto adjust mode by transmitting the code (F) twice from the Jig RCU. When the VCR enters the stop mode, the adjustment is completed.
(5) If the VCR enters the eject mode, perform adjustment for the audio control head phase (X-value) again.

2.3.5 Checking/Adjustment of the Tension Pole Position

Signal	(A)	• Back tension cassette gauge [PUJ48076-2]
Mode	(B)	• PB
Adjustment part	(F)	• Adjust pin [Mechansim assembly]
Specified value	(G)	• 25 - 51 gf•cm (2.45 – 5 × 10^{-3} Nm]

(1) Play back the back tension cassette gauge (A).
(2) Check that the indicated value on the left side gauge is within the specified value (G).
(3) If the indicated value is not within the specified value (G), perform the adjustment in a following procedure.
   1) Set the VCR to the mechanism service mode. (See 1.5 MECHANISM SERVICE MODE.)
   2) Set the VCR to the play back mode and adjust by turning adjustment pin to align the tension arm assembly edge with the main deck hole (A) on the right edge marker. (See Fig. 2-3-5a)

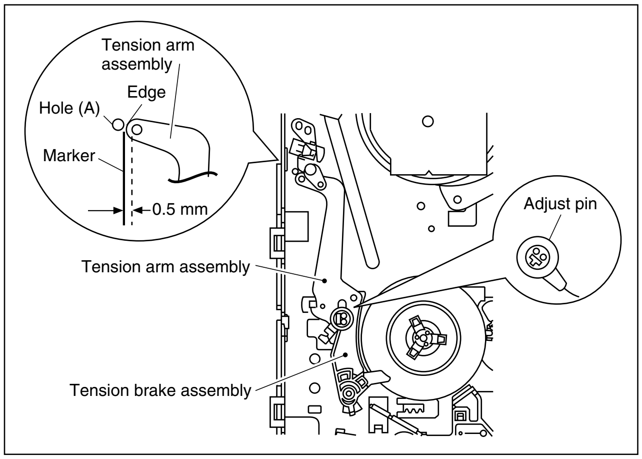
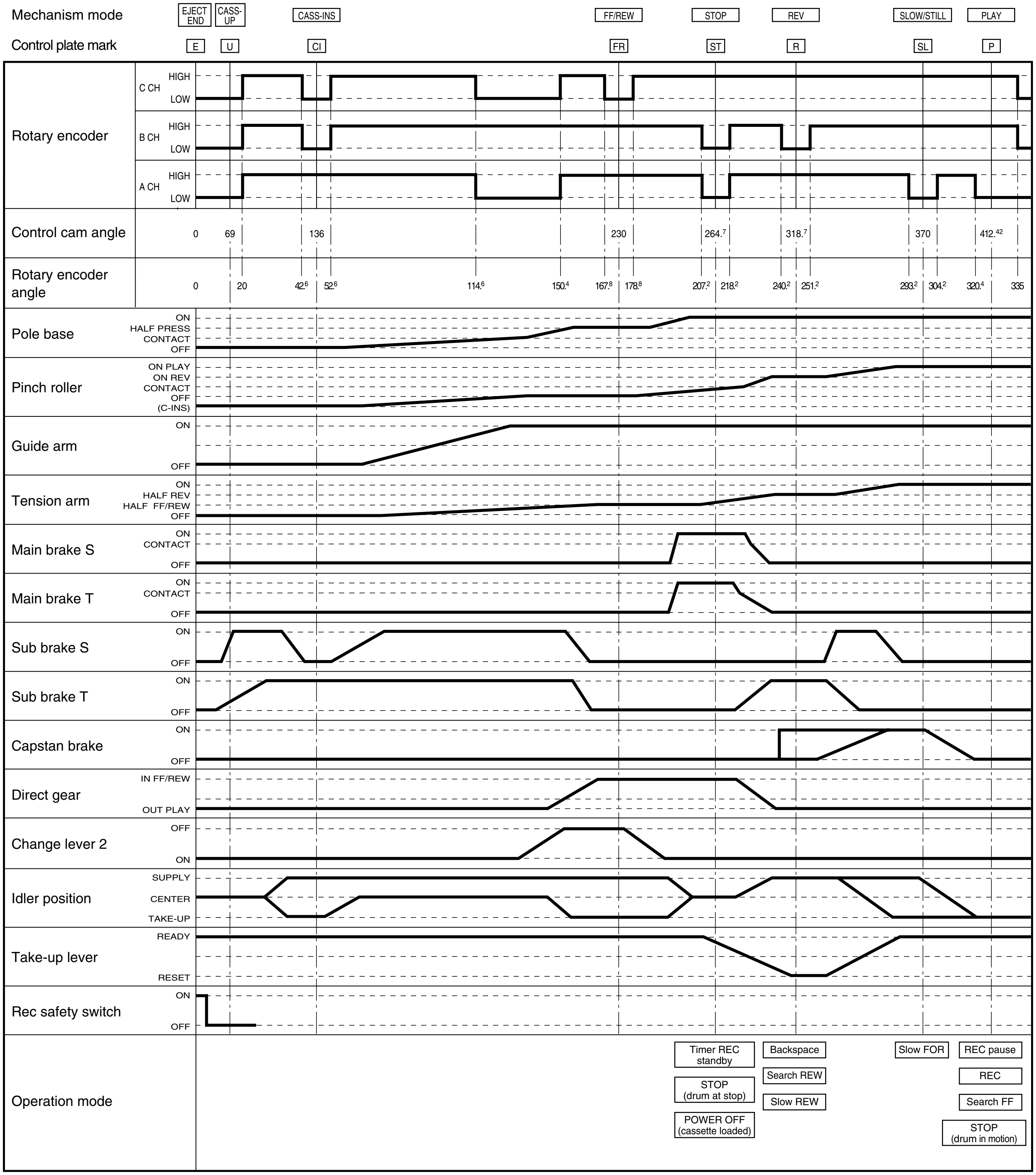


Fig. 2-3-5a

Mechanism Timing Chart


Mechanism mode
EJECT END
CASS-UP
CASS-INS
FF/REW
STOP
REV
SLOW/STILL
PLAY
Control plate mark
E
U
CI
FR
ST
R
SL
P
Rotary encoder
C CH
B CH
A CH
HIGH
LOW
Control cam angle
0
69
136
230
264.7
318.7
370
412.42
Rotary encoder angle
0
20
42.6
52.6
114.6
150.4
167.8
178.8
207.2
218.2
240.2
251.2
293.2
304.2
320.4
335
Pole base
ON
HALF PRESS
CONTACT
OFF
Pinch roller
ON PLAY
ON REV
CONTACT
OFF
(C-INS)
Guide arm
ON
OFF
Tension arm
ON
HALF REV
HALF FF/REW
OFF
Main brake S
ON
CONTACT
OFF
Main brake T
ON
CONTACT
OFF
Sub brake S
ON
OFF
Sub brake T
ON
OFF
Capstan brake
ON
OFF
Direct gear
IN FF/REW
OUT PLAY
Change lever 2
OFF
ON
Idler position
SUPPLY
CENTER
TAKE-UP
Take-up lever
READY
RESET
Rec safety switch
ON
OFF
Operation mode
Timer REC standby
STOP (drum at stop)
POWER OFF (cassette loaded)
Backspace
Search REW
Slow REW
Slow FOR
REC pause
REC
Search FF
STOP (drum in motion)

SECTION 3
ELECTRICAL ADJUSTMENT

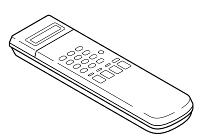
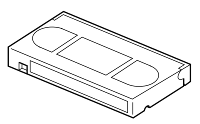
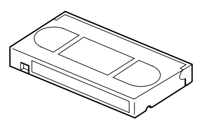
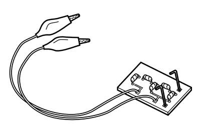
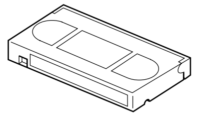
3.1 PRECAUTION

The following adjustment procedures are not only necessary after replacement of consumable mechanical parts or board assemblies, but are also provided as references to be referred to when servicing the electrical circuitry.
In case of trouble with the electrical circuitry, always begin a service by identifying the defective points by using the measuring instruments as described in the following electrical adjustment procedures. After this, proceed to the repair, replacement and/or adjustment. If the required measuring instruments are not available in the field, do not change the adjustment parts (variable resistor, etc.) carelessly.

3.1.1 Required test equipments

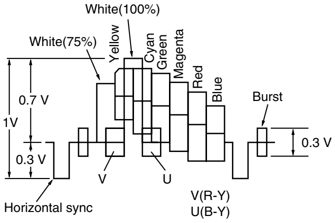
- Color (colour) television or monitor
- Oscilloscope: wide-band, dual-trace, triggered delayed sweep
- Frequency counter
- Signal generator: RF / IF sweep / marker
- Signal generator: stairstep, color (colour) bar [PAL/SECAM]
- Recording tape
- Digit-key remote controller(provided)

3.1.2 Required adjustment tools

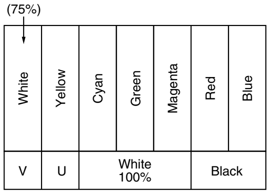
Jig RCU PTU94023B	Alignment tape (SP, stairstep, PAL) MHPE	Alignment tape (SP, stairstep, NTSC) MHP
		
LPF PTU93006	Alignment tape (S-VHS, SP/LP, color (colour) bar) MH-2H	
		

3.1.3 Color (colour) bar signal,Color (colour) bar pattern

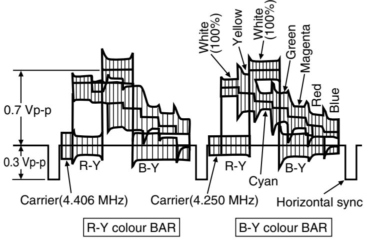
● Colour bar signal [PAL]


White(100%)
White(75%)
Yellow
Cyan
Green
Magenta
Red
Blue
Burst
0.7 V
1V
0.3 V
0.3 V
V
U
V(R-Y)
U(B-Y)
Horizontal sync

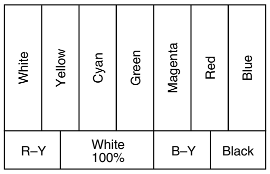
● Colour bar pattern [PAL]


(75%)
White
Yellow
Cyan
Green
Magenta
Red
Blue
V
U
White 100%
Black

● Colour bar signal [SECAM]


White (100%)
Yellow
White (100%)
Green
Magenta
Red
Blue
0.7 Vp-p
0.3 Vp-p
R-Y
B-Y
R-Y
Cyan
B-Y
Carrier(4.406 MHz)
Carrier(4.250 MHz)
Horizontal sync
R-Y colour BAR
B-Y colour BAR

● Colour bar pattern [SECAM]


White
Yellow
Cyan
Green
Magenta
Red
Blue
R–Y
White 100%
B–Y
Black

3.1.4 Switch settings and standard precautions

The SW settings of the VCR and the standard precautions for the electrical adjustments are as follows.

- ***When using the Jig RCU, set its custom code to match the custom code of the VCR.***

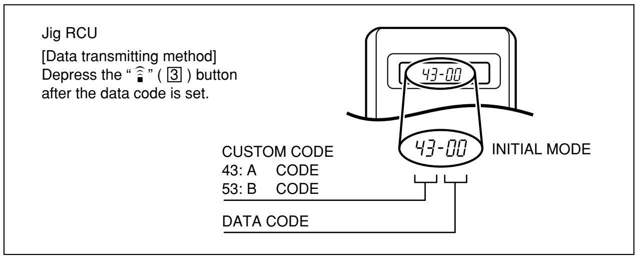

Jig RCU
[Data transmitting method]
Depress the " " (3) button
after the data code is set.
43-00
43-00
INITIAL MODE
CUSTOM CODE
43: A CODE
53: B CODE
DATA CODE

Fig. 3-1-4a Jig RCU [PTU94023B]

- ***Set the switches as shown below unless otherwise specified on the relevant adjustment chart. The switches that are not listed below can be set as desired.***
  If the VCR is not equipped with the functions detailed below, setup is not required.

AUTO PICTURE/VIDEO CALIBRATION/ B.E.S.T./D.S.P.C.	OFF
PICTURE CONTROL/SMART PICTURE	NORMAL/NATURAL
VIDEO STABILIZER	OFF
TBC	ON
Digital 3R	ON
VIDEO NAVIGATION/TAPE MANAGER	OFF

- ***Unless otherwise specified, all measuring points and adjustment parts are located on the Main board.***
- ***In the Signal column of the adjustment chart, "Ext. S-input" means the Y/C separated video signal and "Ext. input" means the composite video signal input.***

3.1.5 EVR Adjustment

Some of the electrical adjustments require the adjustment performed by the EVR system. The Main board assembly have EEPROMs for storing the EVR adjustment data and user setups.

Notes:

- ***In the EVR adjustment mode, the value is varied with the channel buttons (+, –). The adjusted data is stored when the setting mode changes (from PB to STOP, when the tape speed is changed, etc.). Take care to identify the current mode of each adjustment item when making an adjustment.***
- ***When changing the address setting in the EVR adjustment mode, use the Jig RCU or the remote controller having numeric keypad with which a numeric code can be directly input.***
  The remote control code of the Jig RCU corresponds to each of the digit keys on the remote controller as follows.

Digit-key	0	1	2	3	4	5	6	7	8	9
Code	20	21	22	23	24	25	26	27	28	29

- ***As the counter indication and remaining tape indication are not displayed FDP during the EVR adjustment mode, check them on the TV monitor screen.***

- ***When performing the EVR adjustment, confirm that the FDP indication is changed to the EVR mode, as shown below.***

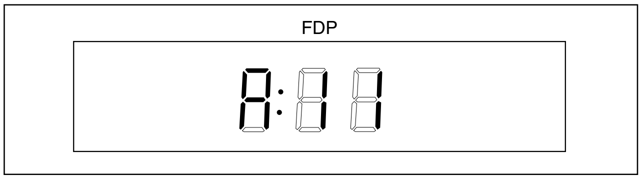


Fig. 3-1-5a EVR mode

3.2 SERVO CIRCUIT

3.2.1 Switching point

Signal	(A1) (A2) (A3)	• Stairstep signal • Alignment tape(SP, stairstep, PAL) [MHPE] • Alignment tape(SP, stairstep, NTSC) [MHP]
Mode	(B)	• PB • TBC: OFF
Equipment	(C)	• Oscilloscope
Measuring point	(D1) (D2)	• VIDEO OUT terminal • TP106 (PB. FM)
External trigger	(E)	• TP111 (D.FF)/slope : –
Adjustment part	(F1) (F2)	• Jig RCU: Code “5A” • Jig RCU: Code “51” or “52”
Specified value	(G1) (G2)	• 7.5 ±0.5H • 8.0 ±0.5H [MHPE] • 7.5 ±0.5H [MHP]
Adjustment tool	(H)	• Jig RCU [PTU94023B]

[HR-S6700MS]

(1) Play back the signal (A1) of the alignment tape (A2).
(2) Apply the external trigger signal to D.FF (E) to observe the VIDEO OUT waveform and V.PB FM waveform at the measuring points (D1) and (D2).
(3) Press the channel buttons (+, –) simultaneously to enter the manual tracking mode. This also brings tracking to the center (centre).
(4) Adjust tracking by pressing the channel buttons (+, –) so that the V.PB FM waveform becomes maximum.
(5) Set the VCR to the Auto adjust mode by transmitting the code (F1) from the Jig RCU. When the VCR enters the stop mode, the adjustment is completed.
(6) If the VCR enters the eject mode, repeat steps (1) to (5) again.
(7) Play back the alignment tape (A2) again, confirm that the switching point is the specified value (G1).

[HR-S7700MS]

(1) Play back the signal (A1) of the alignment tape (A2).
(2) Apply the external trigger signal to D.FF (E) to observe the VIDEO OUT waveform and V.PB FM waveform at the measuring points (D1) and (D2).
(3) Press the channel buttons (+, –) simultaneously to enter the manual tracking mode. This also brings tracking to the center (centre).
(4) Adjust tracking by pressing the channel buttons (+, -) so that the V.PB FM waveform becomes maximum.
(5) Transmit the code (F2) from the Jig RCU to adjust so that the trigger point of the VIDEO OUT waveform is changed from the trailing edge of the V.sync signal becomes the specified value (G2).
(6) Set the VCR to the stop mode or eject mode.
(7) Play back the signal (A1) of the alignment tape (A3).
(8) Repeat steps (2) to (6).

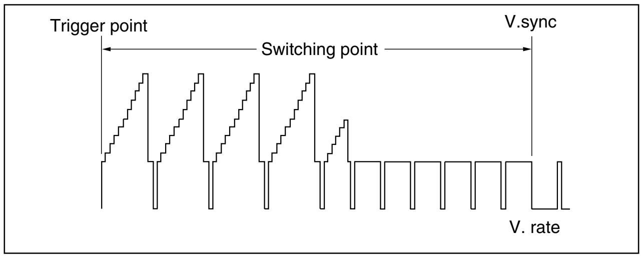


Fig. 3-2-1a Switching point

3.2.2 Slow tracking preset

Signal	(A1) (A2)	• Ext. input • Color (colour) bar signal [PAL]
Mode	(B1) (B2)	• S-VHS SP • S-VHS LP
Measuring point	(D)	• TV-Monitor
Adjustment part	(F)	• Jig RCU: Code “71“ or “72”
Specified value	(G)	• Minimum noise
Adjustment tool	(H)	• Jig RCU [PTU94023B]

(1) Record the signal (A2) in the mode (B1), and play back the recorded signal.
(2) Press the channel buttons (+, –) simultaneously to enter the manual tracking mode. This also brings tracking to the center (centre).
(3) Set the VCR to the FWD slow (+1/6x) mode.
(4) Transmit the code (F) from the Jig RCU to adjust so that the noise bar becomes the specified value (G) on the TV monitor in the slow mode.
(5) Set the VCR to the Stop mode.
(6) Confirm that the noise bar is (G) on the TV monitor in the slow mode.
(7) Repeat steps (3) to (6) in the REV slow (–1/6x) mode.
(8) Repeat steps (1) to (7) in the mode (B2).

Note:

- ***For FWD slow (+1/6x) playback, transmit the code “08” from the Jig RCU to enter the slow playback mode, and transmit the code “D0” for REV slow (–1/6x) mode.***

3.3 VIDEO CIRCUIT

3.3.1 D/A level

Signal	(A1) (A2) (A3)	• Ext. S-input / Ext. input • Color (colour) bar signal [PAL] • S-VHS tape
Mode	(B)	• S-VHS • EE
Equipment	(C)	• Oscilloscope
Measuring point	(D)	• Y OUT terminal (75Ω terminated)
Adjustment part	(F)	[HR-S6700MS] • VR1201 (D/A LEVEL ADJ) [2D board] [HR-S7700MS] • VR1401 (D/A LEVEL ADJ) [3D board]
Specified value (Note)	(G)	• 1.00 ± 0.015 Vp-p (reference value)

(1) Insert the cassette tape (A3) to enter the mode (B).
(2) Observe the Y OUT waveform at the measuring point (D).
(3) Check the Y level value when the External S-input (Y/C separated video signal).
(4) Switch the input signal to the External input (composite video signal), and adjust the adjustment part (F) so that the Y level becomes the same value observed in step (3).

Note:

- ***The specified value (G) is just a reference value to be obtained when the External S-Video (Y/C separated video) signal is input. In actual adjustment, set it to the value observed in step (3).***

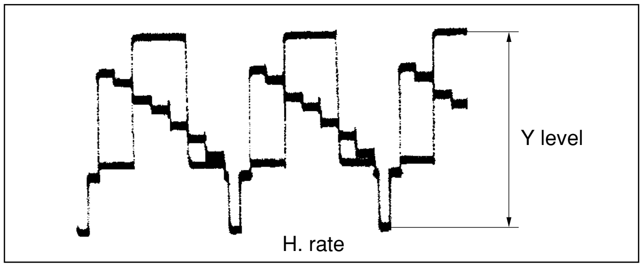


Fig. 3-3-1a D/A level

3.3.2 EE Y level

Signal	(A1) (A2)	• Ext. input • Color (colour) bar signal [PAL]
Mode	(B)	• EE
Equipment	(C)	• Oscilloscope
Measuring point	(D)	• Y OUT terminal (75Ω terminated)
EVR mode EVR address	(F1) (F2)	• Jig RCU: Code “57” • A:11 (Press remote controller “1” key twice)
Specified value	(G)	[HR-S6700MS] • 1.00 ±0.05 Vp-p [HR-S7700MS] • 1.00 ±0.03 Vp-p
Adjustment tool	(H)	• Jig RCU [PTU94023B] • Digit-key remote controller

(1) Observe the Y OUT waveform at the measuring point (D).
(2) Set the VCR to the EVR mode by transmitting the code (F1) from the Jig RCU.
(3) Set the EVR address to (F2) by pressing the button of the digit-key remote controller.
(4) Adjust with the channel buttons (+, –) on the VCR (or on the remote controller) so that the Y level of the Y OUT waveform becomes the specified value (G).
(5) Release the EVR mode of the VCR by transmitting the code (F1) from the Jig RCU again. (When the EVR mode is released, the adjusted data is memorized.)

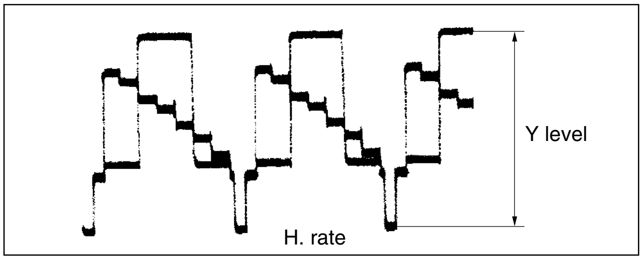


Fig. 3-3-2a EE Y level

3.3.3 PB Y level (S-VHS / VHS)

Signal	(A1) (A2)	• Ext. input • Color (colour) bar signal [PAL]
Mode	(B1) (B2)	• S-VHS SP • VHS SP
Equipment	(C)	• Oscilloscope
Measuring point	(D)	• Y OUT terminal (75Ω terminated)
EVR mode EVR address	(F1) (F2)	• Jig RCU: Code “57” • A:11 (Press remote controller “1” key twice)
Specified value	(G)	[HR-S6700MS] • 1.00 ±0.05 Vp-p [HR-S7700MS] • 1.00 ±0.03 Vp-p
Adjustment tool	(H)	• Jig RCU [PTU94023B] • Digit-key remote controller

(1) Observe the Y OUT waveform at the measuring point (D).
(2) Record the signal (A2) in the mode (B1), and play back the recorded signal.
(3) Press the channel buttons (+, –) simultaneously to enter the manual tracking mode. This also brings tracking to the center (centre).
(4) Set the VCR to the EVR mode by transmitting the code (F1) from the Jig RCU.
(5) Set the EVR address to (F2) by pressing the button of the digit-key remote controller.
(6) Adjust with the channel buttons (+, –) on the VCR (or on the remote controller) so that the Y level of the Y OUT waveform becomes the specified value (G).
(7) Release the EVR mode of the VCR by transmitting the code (F1) from the Jig RCU again. (When the EVR mode is released, the adjusted data is memorized.)
(8) Repeat steps (2) to (7) in the mode (B2).

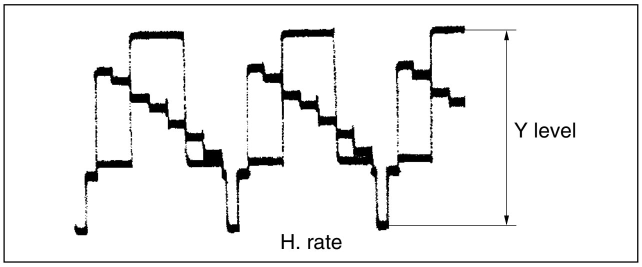


Fig. 3-3-3a PB Y level

3.3.4 REC color (colour) level

Signal	(A1) (A2) (A3)	• Alignment tape(S-VHS,SP/LP,color(colour) bar)[MH-2H] • Ext. input • Color (colour) bar signal [PAL]
Mode	(B1) (B2)	• S-VHS SP • S-VHS LP
Equipment	(C)	• Oscilloscope
Measuring point	(D1) (D2)	• TP106 (PB. FM) • PB color (colour) output of the LPF
External trigger	(E)	• TP111 (D.FF)
EVR mode EVR address	(F1) (F2)	• Jig RCU: Code “57” • A:02 (Press remote controller “0” and “2” keys)
Specified value	(G)	• SP: “B” x 125 ± 5% • LP: “B” x 125 ± 5%
Adjustment tool	(H1) (H2) (H3)	• Jig RCU [PTU94023B] • Digit-key remote controller • LPF[PTU93006] (See Fig. 3-3-4a.)

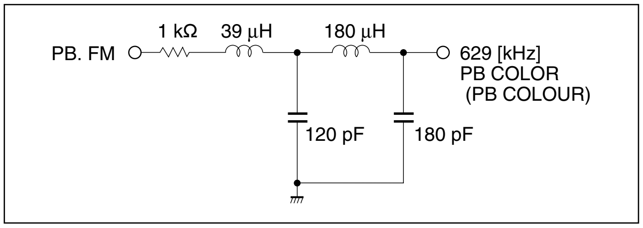


Fig. 3-3-4a LPF

(1) Connect the adjustment tool (H3) to the measuring point (D1).
(2) Apply the external trigger signal to D.FF (E) to observe the PB color (colour) waveform at the measuring point (D2).
(3) Play back the signal (A3) in the mode (B1) of the alignment tape (A1).
(4) Press the channel buttons (+, –) simultaneously to enter the manual tracking mode. This also brings tracking to the center (centre).
(5) Adjust tracking by pressing the channel buttons (+, –) so that the PB color (colour) waveform becomes maximum. Make a note of the higher PB color (colour) level as “B” at this time.
(6) Record the signal (A3) in the mode (B1), and play back the recorded signal.
(7) Set the VCR to the EVR mode by transmitting the code (F1) from the Jig RCU.
(8) Set the EVR address to (F2) by pressing the button of the digit-key remote controller.
(9) Adjust with the channel buttons (+, –) on the VCR (or on the remote controller) so that the higher level channel becomes the specified value (G) of the note "B" level as shown in Fig. 3-3-4b. (Adjust before recording, then confirm it by playing back.)
(10) After adjustment, record the signal (A3) then playing it back again. At this time, confirm that there is no inverting phenomenon or noise appearing on the playback screen.
(11) Release the EVR mode of the VCR by transmitting the code (F1) from the Jig RCU again. (When the EVR mode is released, the adjusted data is memorized.)
(12) Repeat steps (3) to (11) in the mode (B2).

Note:

- ***After adjusting, always perform the confirmation and re-adjustment of the item 3.4.1.***

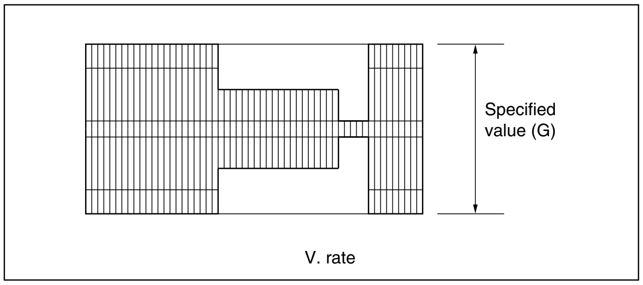


Fig. 3-3-4b REC color (colour) level

3.3.5 Video EQ (Frequency response)

Signal	(A1) (A2)	• Ext. S-input • Video sweep signal
Mode	(B1) (B2) (B3)	• S-VHS SP • S-VHS LP • Picture Control / Smart Picture REC : Normal / Natural PB : Edit / Distinct
Equipment	(C)	• Oscilloscope
Measuring point Frequency marker	(D1) (D2)	• Y OUT terminal (75Ω terminated) • 3 [MHz]
External trigger	(E)	• TP111 (D.FF)
EVR mode EVR address	(F1) (F2)	• Jig RCU: Code “57” • A:03 (Press remote controller “0” and “3” keys)
Specified value	(G)	• SP: 3.6 ±0.4 div. (-1 ±1 dB) • LP: 3.2 ±0.4 div. (-2 ±1 dB)
Adjustment tool	(H)	• Jig RCU [PTU94023B] • Digit-key remote controller

(1) Apply the external trigger signal to D.FF (E) to observe the Y OUT waveform at the measuring point (D1).
(2) Record the signal (A2) in the mode (B1), and play back the recorded signal.
(3) Press the channel buttons (+, –) simultaneously to enter the manual tracking mode. This also brings tracking to the center (centre).
(4) Set the VCR to the EVR mode by transmitting the code (F1) from the Jig RCU.
(5) Set the EVR address to (F2) by pressing the button of the digit-key remote controller.
(6) Set the slope of the oscilloscope to the channel having higher (D2) marker level of the Y OUT waveform [signal (A2)]. Then set the 100 kHz marker level to the "4" scale on the oscilloscope. In this condition, adjust with the channel buttons (+, -) on the VCR (or on the remote controller) so that the (D2) marker level reaches the specified value (G).
(7) Release the EVR mode of the VCR by transmitting the code (F1) from the Jig RCU again. (When the EVR mode is released, the adjusted data is memorized.)
(8) Repeat steps (2) to (7) in the mode (B2).

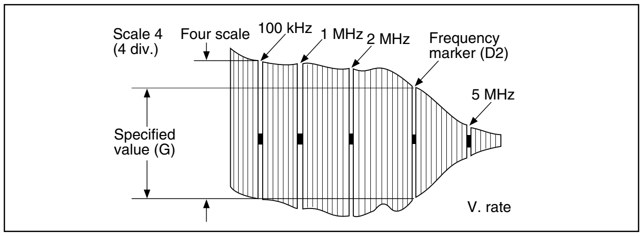


Fig. 3-3-5a Video EQ (Frequency Response)

3.3.6 AUTO PICTURE initial setting

Signal	(A1) (A2) (A3)	• Ext. input • Video: Optional • VHS tape
Mode	(B)	• EE → Auto adjust (SP/LP REC → PB)
Adjustment part	(F)	• Jig RCU : Code “58”
Specified value	(G)	• STOP mode
Adjustment tool	(H)	• Jig RCU [PTU94023B]

(1) Insert the cassette tape (A3).
(2) Set the VCR to the Auto adjust mode by transmitting the code (F) from the Jig RCU. When the VCR enters the stop mode, the adjustment is completed. When the VCR enters the eject mode, repeat steps (1) to (2) again.

3.4 AUDIO CIRCUIT

Notes:

- ***This adjustment should be done after the "REC color (colour) level adjustment" for the video circuit has been completed.***
- ***GND (Ground) should be taken from the Tuner shield case.***

3.4.1 Audio REC FM

Signal	(A1) (A2) (A3)	• Ext. input • Audio: No signal • Video: Color (colour) bar signal [PAL]
Mode	(B)	• S-VHS LP
Equipment	(C)	• Oscilloscope
Measuring point	(D)	• TP2253 (A. PB. FM)
External trigger	(E)	• TP111 (D.FF)
EVR mode EVR address	(F1) (F2)	• Jig RCU: Code "57" • A: 30 (Press remote controller "3" and "0" keys.)
Specified value	(G1) (G2)	• 450 ±100 mVp-p • More than 300 mVp-p
Adjustment tool	(H)	• Jig RCU [PTU94023B] • Digit-key remote controller

(1) Apply the external trigger signal to D.FF (E) to observe the Audio PB FM waveform at the measuring point (D).
(2) Record the signal (A3) with no audio signal input in the mode (B), and play back the recorded signal.
(3) Press the channel buttons (+, –) simultaneously to enter the manual tracking mode. This also brings tracking to the center (centre).
(4) If the A.PB FM level is not within the specified value (G1), perform the adjustment in a following procedure.
(5) Set the VCR to the EVR mode by transmitting the code (F1) from the Jig RCU.
(6) Set the EVR address to (F2) by pressing the button of the digit-key remote controller.
(7) Adjust with the channel buttons (+, –) on the VCR (or on the remote controller) so that the A.PB FM level of the higher channel level becomes the specified value (G1). (Adjust before recording, then confirm it by playing back.)
(8) If the specified value (G1) is not obtained, adjust with the channel buttons (+, –) so that the waveform level of the lower channel level becomes the specified value (G2). (Adjust before recording, then confirm it by playing back.)
(9) Release the EVR mode of the VCR by transmitting the code (F1) from the Jig RCU again. (When the EVR mode is released, the adjusted data is memorized.)

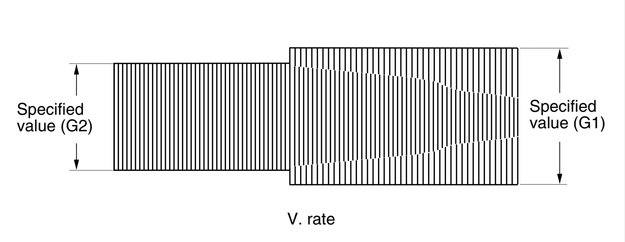


Fig. 3-4-1a Audio REC FM

3.5 PAL/SECAM CONVERTER CIRCUIT

Note:

- ***Unless otherwise specified in this P/S Converter circuit adjustments, all measuring points and adjustment parts are located on the P/S Converter board.***

3.5.1 fH VCO

Signal	(A1) (A2)	• Ext. input • Color (colour) bar signal [SECAM]
Mode	(B)	• EE
Equipment	(C)	• Oscilloscope
Measuring point Short point	(D1) (D2)	• IC3504 pin 4 (H OUT) • TP3503
Adjustment part	(F)	• VR3501 (FH FREE RUN ADJ.)
Specified value	(G)	• fH = 15.625 ± 0.2 kHz (T = 64 ± 0.8 µsec)

(1) Connect the short wire between the short point (D2) and the GND (Ground).
(2) Observe the waveform appeared at the measuring point (D1).
(3) Adjust the adjustment part (F) so that the fH SYNC frequency becomes the specified value (G).
(4) Disconnect the short wire between the short point (D2) and the GND (Ground).

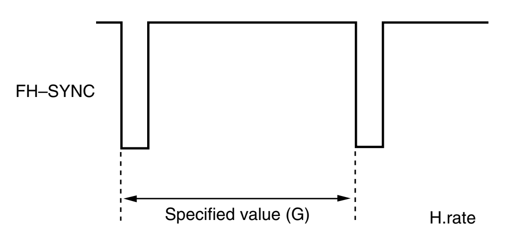


Fig. 3-5-1a fH VCO

3.5.2 DEMOD Fo

Signal	(A1) (A2)	• Ext. input • Color (colour) bar signal [SECAM]
Mode	(B)	• EE
Equipment	(C)	• Oscilloscope
Measuring point	(D1) (D2)	• TP3501 round (B-Y) • TP3502 round (R-Y)
Adjustment part	(F1) (F2)	• L3513 (SECAM DECODE ADJ.) • VR3502 (SECAM DECODE ADJ.)
Specified value	(G)	• Less than 20 mVp-p

(1) Observe the B-Y waveform at the measuring point (D1).
(2) Adjust the adjustment part (F1) so that the difference between the blanking level and the pedestal level of the B-Y waveform becomes the specified value (G).

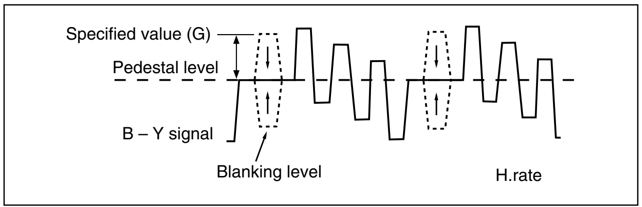


Fig. 3-5-2a DEMOD Fo-1

(3) Observe the R-Y waveform at the measuring point (D2).

(4) Adjust the adjustment part (F2) so that the difference between the blanking level and the pedestal level of the R-Y waveform becomes the specified value (G).

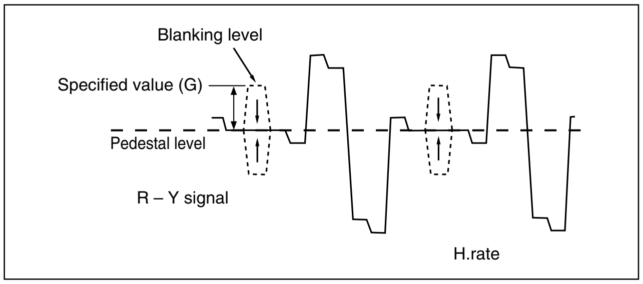

Blanking level
Specified value (G)
Pedestal level
R – Y signal
H.rate

Fig. 3-5-2b DEMOD Fo-2

3.5.3 Colour difference level

Signal	(A1) (A2)	• Ext. input • Color (colour) bar signal [SECAM]
Mode	(B)	• EE
Equipment	(C)	• Oscilloscope
Measuring point	(D)	• TP3504 round (CONV'D COLOR)
Adjustment part	(F1) (F2) (F3) (F4)	• L3513 (SECAM DECODE ADJ.) • VR3502 (SECAM DECODE) • VR3506 (B-Y LEVEL ADJ.) • VR3505 (R-Y LEVEL ADJ.)
Specified value	(G1) (G2) (G3)	• Less than 30 mVp-p (CARRIER LEAK) • 460 ± 20 mVp-p : VR3506 (B-Y) • 620 ± 20 mVp-p : VR3505 (R-Y)

(1) Observe the C (converted colour) waveform at the measuring point (D).
(2) Fine adjust the adjustment part (F1) so that the carrier leak becomes the specified value (G1). In case the adjustment cannot be accomplished, after fine adjust the adjustment part (F1) so that the carrier leak is reduced to its minimum level then fine adjust the adjustment part (F2).
(3) Adjust the adjustment part (F3) so that the higher level of the Yellow and Blue of the C waveform becomes the specified value (G2).
(4) Adjust the adjustment part (F4) so that the higher level of the Green and Magenta of the C waveform becomes the specified value (G3).

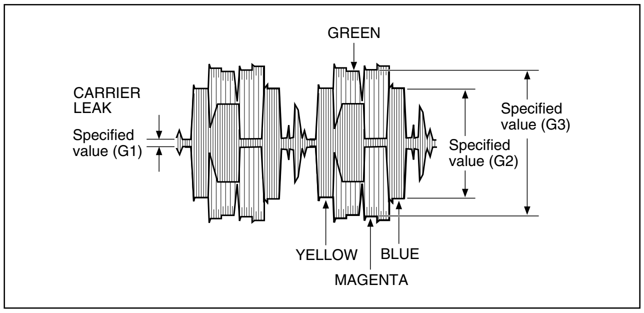

GREEN
CARRIER LEAK
Specified value (G1)
Specified value (G3)
Specified value (G2)
YELLOW
BLUE
MAGENTA

Fig. 3-5-3a Colour difference level

3.5.4 PAL burst position

Signal	(A1) (A2)	• Ext. input • Color (colour) bar signal [SECAM]
Mode	(B)	• EE
Equipment	(C)	• Oscilloscope
Measuring point	(D1) (D2)	• CN3502 pin 1 • TP3504 (CONV'D COLOR)
Adjustment part	(F)	• VR3503 (PAL BURST ADJ.)
Specified value	(G)	• Tr = 5.6 ± 0.1 µsec

(1) Observe the waveforms appeared at the measuring points (D1) and (D2).
(2) Adjust the adjustment part (F) so that the waveforms timing width between the H-SYNC and the colour burst signal becomes the specified value (G).

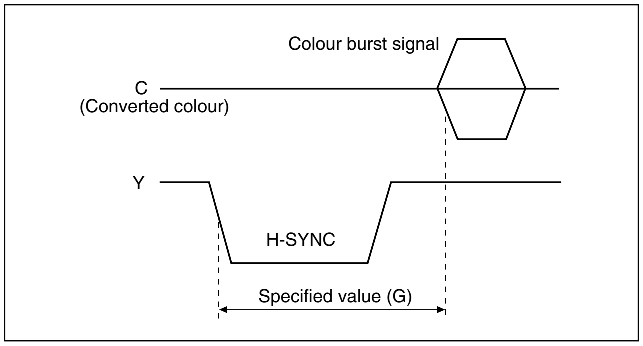

Colour burst signal
C
(Converted colour)
Y
H-SYNC
Specified value (G)

Fig. 3-5-4a PAL burst position

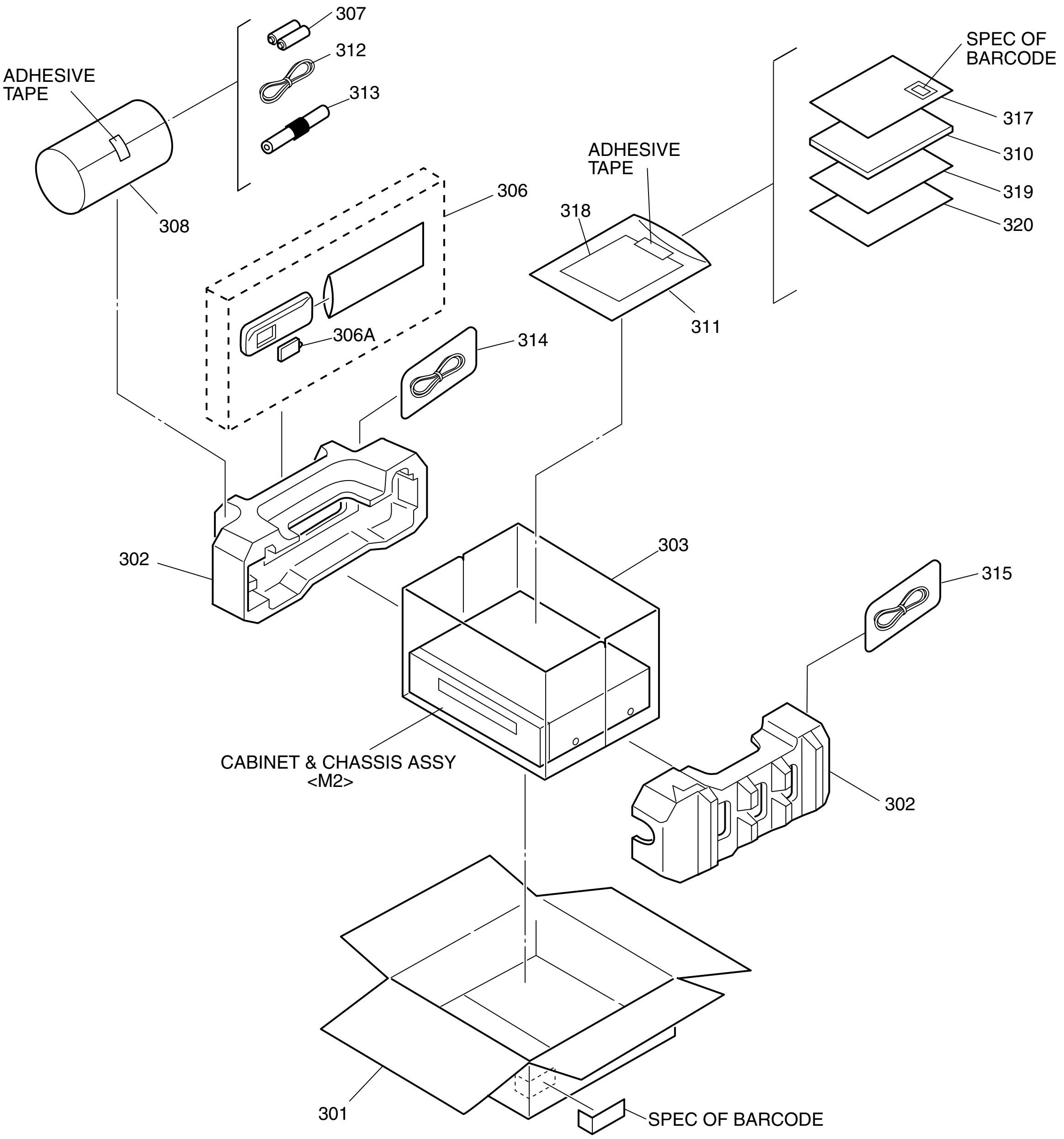
SECTION 5
PARTS LIST

SAFETY PRECAUTION

Parts identified by the ⚠ symbol are critical for safety. Replace only with specified part numbers.

5.1 PACKING AND ACCESSORY ASSEMBLY <M1>

The instruction manual to be provided with this product will differ according to the destination.



307
312
ADHESIVE TAPE
313
SPEC OF BARCODE
317
310
319
320
ADHESIVE TAPE
306
318
308
311
306A
314
302
303
315
CABINET & CHASSIS ASSY <M2>
302
301
SPEC OF BARCODE

****

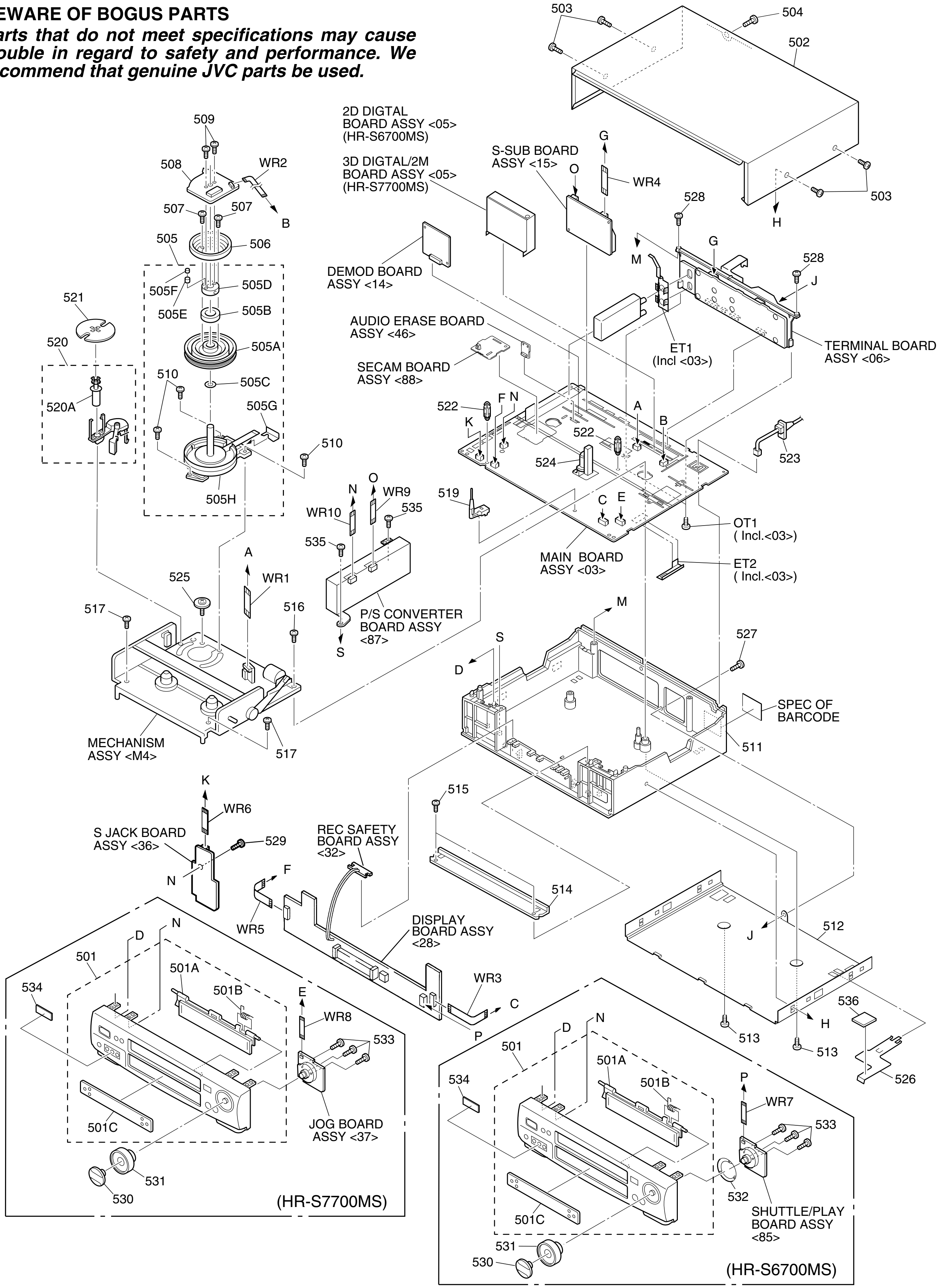
PACKING AND ACCESSORY ASSEMBLY <M1>

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION
	301	LP30711-001B	PACKING CASE
	302	LP30606-002C	CUSHION ASSY
	303	PQM30021-95	POLY BAG
	306	LP20878-002A	REMOTE CONTROLLER
	306A	LP40610-002A	COVER(BATTERY)
	307	–	BATTERY,X2(“R6”TYPE)
	308	QPC02202230P	POLY BAG
⚠	310	LPT0334-001A	INST.BOOK(FR),S7700MS
⚠		LPT0333-001B	INST.BOOK(FR),S6700MS
	311	QPC02503530P	POLY BAG
	312	PEAC0300-02	RF CABLE
	313	PEAC0429	P/S CONV PLUG
	314	QAL0095-005	LED CABLE ASSY(Satelite Controller)
	315	QAM0020-001	PERI CABLE
	317	BT-54008-2	GUARANTY CARD
	318	LPT0002-0F6B	SHEET(ATTENTION)
	319	LP40437-001A	LABEL(S-VHS ET)
	320	LP40605-001A	SHEET

5.2 CABINET AND CHASSIS ASSEMBLY <M2>

BEWARE OF BOGUS PARTS

Parts that do not meet specifications may cause trouble in regard to safety and performance. We recommend that genuine JVC parts be used.


503
504
502
503
H
509
508
WR2
B
507
507
505
506
505F
505D
505E
505B
505A
505C
505G
505H
510
510
521
520
520A
2D DIGTAL
BOARD ASSY <05>
(HR-S6700MS)
3D DIGTAL/2M
BOARD ASSY <05>
(HR-S7700MS)
S-SUB BOARD
ASSY <15>
O
G
WR4
528
G
M
528
J
DEMOD BOARD
ASSY <14>
AUDIO ERASE BOARD
ASSY <46>
ET1
(Incl <03>)
TERMINAL BOARD
ASSY <06>
SECAM BOARD
ASSY <88>
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K
F
N
A
B
522
524
523
519
C
E
OT1
(Incl.<03>)
MAIN BOARD
ASSY <03>
ET2
(Incl.<03>)
N
O
WR9
WR10
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535
A
WR1
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516
P/S CONVERTER
BOARD ASSY
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M
S
D
527
SPEC OF
BARCODE
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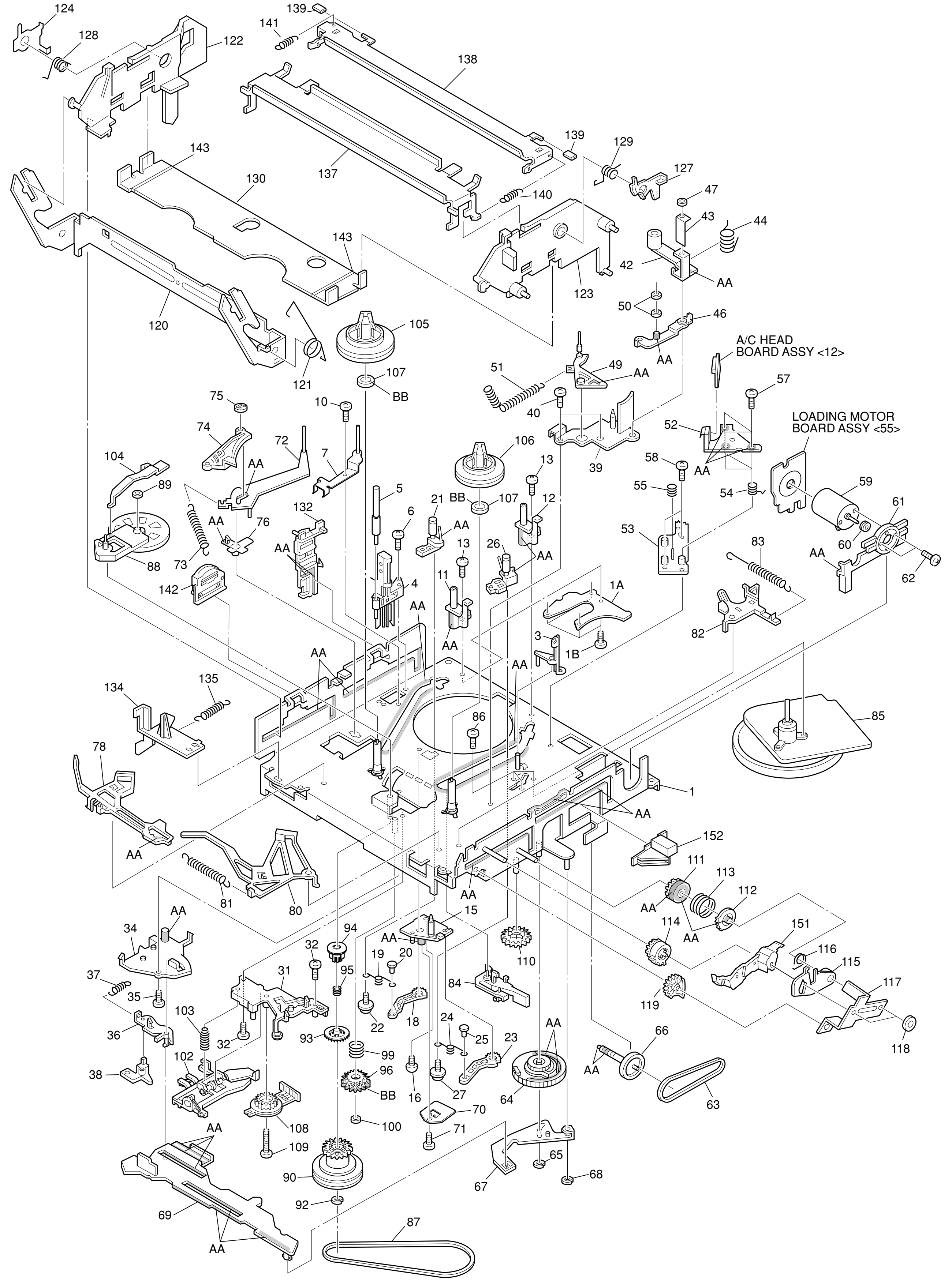
MECHANISM
ASSY <M4>
517
K
WR6
S JACK BOARD
ASSY <36>
529
N
515
REC SAFETY
BOARD ASSY
<32>
F
514
WR5
DISPLAY
BOARD ASSY
<28>
J
512
D
N
501
501A
501B
534
501C
E
WR8
533
JOG BOARD
ASSY <37>
531
530
(HR-S7700MS)
WR3
C
P
H
536
513
513
526
D
N
501
501A
501B
534
P
WR7
533
501C
532
SHUTTLE/PLAY
BOARD ASSY
<85>
531
530
(HR-S6700MS)

****

CABINET AND CHASSIS ASSEMBLY <M2>

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION
	⚠	501	LP10217-028A	FRONT PANEL ASSY,S6700MS
	⚠		LP10217-032A	FRONT PANEL ASSY,S7700MS
		501A	LP20342-043A	CASSETTE DOOR,6700MS
			LP20342-046A	CASSETTE DOOR,7700MS
		501B	PQ46448	TORSION SPRING
		501C	LP30531-022A	DISPLAY WINDOW,S6700MS
			LP30531-026A	DISPLAY WINDOW,S7700MS
	⚠	502	PQ11676-95	TOP COVER
		503	QYTDSF3010R	SCREW,X4 TOP COVER(SIDE)
		504	QYTDSF3010M	SCREW,TOP COVER(REAR)
		505	LP20617-014A	DRUM SUB ASSY,S7700MS
			LP20617-011A	DRUM SUB ASSY,S6700MS
		505A	LP20616-005A	UPPER DRUM ASSY,S6700MS
			LP20030-017A	UPPER DRUM ASSY,S7700MS
		505B	PDM4439	CAP
		505C	PDM4444-19-2	WASHER
		505D	LP40572-001A	COLLAR ASSY
		505E	LP40323-001A	CONTACT
		505F	LP30004-014A	COMPRESION SPRING
		505G	LP40174-001B	FPC PLATE
		505H	LP20615-007A	LOWER DRUM ASSY,S7700MS
			LP20615-002A	LOWER DRUM ASSY,S6700MS
		506	PDZ0179-1-4	ROTOR ASSY
		507	QYSPSP3006Z	SCREW,X2
	⚠	508	QAR0119-001	STATOR ASSY
		509	QYSPSPH2606Z	SCREW,X2
		510	QYTDST2610Z	SCREW,X3 DRUM
	⚠	511	LP10116-003J	BOTTOM CHASSIS
	⚠	512	PQ11668-2-12	BOTTOM COVER
		513	QYTDSF3010Z	SCREW,X2
		514	LP30312-001B	BRACKET(CHASSIS)
		515	QYTDSF3010Z	SCREW,X2
		516	QYTDSF4012Z	SCREW,MECHA
		517	QYTDSF3010Z	SCREW,X2 MECHA
		519	LP40407-001A	KNOB ASSY
		520	LP40370-001E	ROLLER ARM ASSY
		520A	PDM4311A-1	ROLLER ASSY
		521	PQ45160	INERTIA PLATE
		522	LP40226-001A	PC SUPPORT
	⚠	523	QMP4A10-170	POWER CORD
		524	LP40253-001B	STOPPER
		525	PQ40413	SPECIAL SCREW,MECHA
		526	LP40659-001A	EARTH PLATE(2)
		527	QYTDSF3010M	SCREW,TERMINAL
		528	QYTPSFG3010Z	SCREW,X2 TERMINAL
		529	QYTDSF3010Z	SCREW,S JACK
		530	LP30695-001A	KNOB(SHUTTLE),S7700MS
			LP30699-001B	KNOB(SHUTTLE),S6700MS
		531	LP30694-001A	KNOB(JOG),S7700MS
			LP30698-001A	KNOB(PLAY),S6700MS
		532	LP30703-001A	BASE,S6700MS
		533	QYTDSF2608Z	SCREW,X3,S7700MS
			QYTDSF2612Z	SCREW,X3,S6700MS
		534	LP30532-001A	CAP(JACK)
		535	QYTDSF3010Z	SCREW,X2 P/S CONVERTER
		536	LP30002-092A	SPACER,BOTTOM COVER
		WR1	QUQ112-0720CG	FFC WIRE,A/C HEAD CN2001
		WR2	QUQ212-0518CG	FFC WIRE,DRUM CN3001
		WR3	QUQ112-1414CG	FFC WIRE,DISPLAY CN3011
		WR4	QUQ112-1407CG	FFC WIRE,TERMINAL CN512
		WR5	QUQ212-0516CG	FFC WIRE,JACK CN902
		WR6	QUQ212-0416CG	FFC WIRE,S(FSA) CN901
		WR7	QUQ112-0614CG	FFC WIRE,SHUTTLE CN7001,S6700MS
		WR8	QUQ112-0616CG	FFC WIRE,JOG(FSA)CN3012,S7700MS
		WR9	QUQ112-0922CG	FFC WIRE,S/P CONVERTER CN513
		WR10	QUQ212-0414CG	FFC WIRE,S/P CONVERTER CN1901

5.3 MECHANISM ASSEMBLY <M4>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105
A/C HEAD
BOARD ASSY <12>
AA
51
49
AA
121
107
BB
57
75
10
40
LOADING MOTOR
BOARD ASSY <55>
74
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52
106
104
AA
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AA
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89
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BB
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AA

Classifi-cation	Part No.	Symbol in drawing
Grease	KYODO-SH-P	AA
Oil	COSMO-HV56	BB

NOTE: The section marked in **AA** and **BB** indicate lubrication and greasing areas.

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MECHANISM ASSEMBLY <M4>

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION
		1	LP20821-002F	MAIN DECK ASSY
		1A	LP40275-004B	PLATE(SUPPLY)
		1B	QYTDST2605Z	SCREW,X4
		3	LP30492-002B	GIDE POLE GUARD
		4	NAH0001-001	FULL ERASE HEAD
		5	LP40098-001B	GUIDE POLE(SUPPLY)
		6	QYTDST2608Z	SCREW
		7	LP40637-002A	TENSION STUD BASE ASSY
		10	QYTDST2606Z	SCREW
		11	LP30409-002C	UV CATCHER 2(SUPPLY)
		12	LP30409-002C	UV CATCHER 2(TAKE UP)
		13	QYTPST2606Z	SCREW,X2
		15	LP30223-003C	LOADING ARM GEAR SHAFT
		16	QYTDST2606Z	SCREW
		18	LP30224-001A	LOADING ARM GEAR(SUPPLY)
		19	LP40099-001A	TORSION ARM
		20	LP40100-001A	PIN
		21	LP40101-006A	POLE BASE ASSY(SUPPLY)
		22	QYSPSTG2606Z	SCREW
		23	LP40103-002B	LOADING ARM GEAR(TAKE UP)
		24	LP40099-001A	TORSION ARM
		25	LP40100-001A	PIN
		26	LP40104-006A	POLE BASE ASSY(TAKE UP)
		27	QYSPSTG2606Z	SCREW
		31	LP20233-004B	ROTARY ENCODER GUIDE
		32	QYTPST2606Z	SCREW
		34	LP30226-004D	CONTROL PLATE GUIDE
		35	QYTPST2605Z	SCREW
		36	LP30249-003B	TAKE UP LEVER
		37	LP30003-006A	TENSION SPRING
		38	LP40119-002A	T.UP HEAD
		39	LP20234-004B	LID GUIDE
		40	QYTDST2606Z	SCREW,X2
		42	LP40105-001B	PINCH ROLLER ARM ASSY
		43	LP40478-001A	PINCH ROOLER SHEET2
		44	LP40148-002A	TORSION SPRING
		46	LP40149-001C	PRESS LEVER ASSY
		47	LP30016-002A	SLIT WASHER
		49	LP40106-005A	GUIDE ARM ASSY
		50	LP40404-002A	SPACER,X2
		51	LP40134-001C	TENSION SPRING
		52	QAH0010-004	AC HEAD
		53	LP30228-001A	HEAD BASE
		54	LP30004-013A	COMPRESSION SPRING,X3
		55	LP40236-001A	COMPRESSION SPRING
		57	LP40213-002B	SPECIAL SCREW,X3
		58	QYTDST2608Z	SCREW,X2
		59	QAR0023-001	LOADING MOTOR
		60	PQ43546-1-2	MOTOR PULLEY
		61	LP30230-001B	MOTOR GUIDE
		62	QYTPSP3003Z	SCREW,X2
		63	LP30005-003A	BELT,LOADING MOTOR
		64	LP20791-002C	CONTROL CAM
		65	PQM30017-24	SLIT WASHER
		66	LP40120-001A	WORM GEAR
		67	LP40107-002A	LINK LEVER ASSY
		68	PQM30017-24	SLIT WASHER
		69	LP10284-002E	CONTROL PLATE
		70	LP40379-001B	CONTROL BRACKET(1)
		71	QYTDSF2608M	SCREW
		72	LP40108-002A	TENSION ARM ASSY
		73	LP30003-010A	TENSION SPRING
		74	LP40109-003D	TENSION BRAKE ASSY
		75	PQ46302-1-3	ADJUST PIN
		76	LP30232-002A	TENSION ARM BEARING
		78	LP40532-009B	MAIN BRAKE ASSY (SUPPLY)
		80	LP40111-014B	MAIN BRAKE ASSY (TAKE UP)
		81	LP30003-029A	TENSION SPRING
		82	LP40112-001F	SUB BRAKE ASSY(TAKE UP)
		83	LP40357-001B	TENSION SPRING
		84	LP40461-001A	CAPSTAN BRAKE ASSY
		85	QAR0132-001	CAPSTAN MOTOR
		86	QYTDSF2606M	SCREW,X3
		87	LP30005-008A	BELT,CAPSTAN MOTOR
		88	LP40114-011A	IDLER ARM ASSY
		89	LP30016-001A	SLIT WASHER
		90	LP40593-003B	CLUTCH UNIT 3
		92	PQM30017-47	SLIT WASHER
		93	LP30696-002A	CLUTCH GEAR 4
		94	LP30697-003A	COUPLING GEAR
		95	LP40554-002A	COMPRESSION SPRING
		96	LP40442-001A	DIRECT GEAR
		99	LP40483-002A	COMPRESSION SPRING
		100	LP30016-001A	SLIT WASHER
		102	LP40484-003A	CHANGE LEVER ASSY
		103	LP40512-002B	COMPRESSION SPRING
		104	LP30236-002B	IDLER LEVER
		105	LP20237-003B	REEL DISK ASSY(SUPPLY)
		106	LP20238-003B	REEL DISK ASSY(TAKE UP)
		107	LP30017-015A	SPACER,X2
		108	QSW0554-003	ROTARY ENCODER
		109	QYTPST2620Z	SCREW
		110	LP30237-002B	CASSETTE GEAR
		111	LP30239-002G	LIMIT GEAR(1)
		112	LP30240-002G	LIMIT GEAR(2)
		113	LP40136-001E	TORSION SPRING
		114	LP30242-002A	RELAY GEAR
		115	LP30339-002E	OPENER GUIDE
		116	LP40545-001A	TORSION SPRING
		117	LP40214-001B	C.H.BRACKET
		118	PQM30017-47	SLIT WASHER,X2
		119	LP30243-001D	DRIVE GEAR
		120	LP20240-001D	DRIVE ARM
		121	LP40137-001A	TORSION SPRING
		122	LP10081-002L	SIDE HOLDER(L)
		123	LP10082-002M	SIDE HOLDER(R)
		124	LP30255-006A	LOCK LEVER(L)
		127	LP30256-001H	LOCK LEVER(R)
		128	LP40168-001A	TORSION SPRING(L)
		129	LP40218-001B	TORSION SPRING(R)
		130	LP30257-001G	CASSETTE HOLDER
		132	LP30244-002G	GUIDE RAIL
		134	LP30245-002E	REC SAFETY LEVER
		135	LP30003-004A	TENSION SPRING
		137	LP20578-001C	TOP GUIDE
		138	LP30500-001C	HOLD PLATE
		139	LP40450-003A	PAD,X2
		140	LP30003-025B	TENSION SPRING
		141	LP30003-024A	TENSION SPRING
		142	LP40481-003A	ROLLER CAM ASSY
		143	LP30019-014A	PAD,X2
		151	LP20324-003A	DOOR OPENER
		152	LP30493-001A	START SENSOR CAP

5.4 ELECTRICAL PARTS LIST

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MAIN BOARD ASSEMBLY <03>

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION
PW1	LPA10106-06D1	MAIN BOARD ASSY,S6700MS
	LPA10106-08C1	MAIN BOARD ASSY,S7700MS
IC1	JCP8020-MSD-2	IC
IC2	MM1113XF	IC
IC3001	HD6432194AA04F	IC(MCU)
IC3002	S-80727AN-DQ-X	IC
	or S-80827ANUP-W	IC
IC3003	AT24C16-10PC	IC
	or 24LC16B/P	IC
	or BR24C16	IC
IC3004	BA6956AN	IC
IC3601	BU2090FS	IC
IC3651	BU2090FS	IC
IC5101	STR-G6551	IC
IC5301	LA5644	IC
IC6080	NJM2125F	IC
Q1	2SC4081/S/-X	TRANSISTOR,S6700MS
Q2	2SC4081/S/-X	TRANSISTOR,S6700MS
Q3	2SC4081/S/-X	TRANSISTOR,S6700MS
Q4	2SC4081/S/-X	TRANSISTOR,S6700MS
Q5	2SB1218A/QR/-X	TRANSISTOR
	or 2SA1576A/QR/-X	TRANSISTOR
	or 2PA1576/R/-X	TRANSISTOR
Q7	2SD1819A/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
	or 2SC4081/QRS/-X	TRANSISTOR
Q8	2SD1819A/QRS/-X	TRANSISTOR
	or 2SC4081/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
Q9	2SB1218A/QR/-X	TRANSISTOR
	or 2PA1576/R/-X	TRANSISTOR
	or 2SA1576A/QR/-X	TRANSISTOR
Q10	2SB1218A/QR/-X	TRANSISTOR
	or 2SA1576A/QR/-X	TRANSISTOR
	or 2PA1576/R/-X	TRANSISTOR
Q14	UN511E	TRANSISTOR
	or DTA144WU	TRANSISTOR
	or PDTA144WU	TRANSISTOR
	or RN2309	TRANSISTOR
Q17	DTC144WU	TRANSISTOR
	or PDTC144WU	TRANSISTOR
	or RN1309	TRANSISTOR
	or UN521E	TRANSISTOR
Q18	2SB1218A/QR/-X	TRANSISTOR
	or 2PA1576/R/-X	TRANSISTOR
	or 2SA1576A/QR/-X	TRANSISTOR
Q21	2SB1218A/QR/-X	TRANSISTOR
	or 2SA1576A/QR/-X	TRANSISTOR
	or 2PA1576/R/-X	TRANSISTOR
Q24	2SB1218A/QR/-X	TRANSISTOR
	or 2PA1576/R/-X	TRANSISTOR
	or 2SA1576A/QR/-X	TRANSISTOR
Q38	2SD1819A/QRS/-X	TRANSISTOR
	or 2SC4081/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
Q41	DTC144WU	TRANSISTOR
	or PDTC144WU	TRANSISTOR
	or RN1309	TRANSISTOR
	or UN521E	TRANSISTOR
Q401	2SA1576A/QR/-X	TRANSISTOR,S7700MS
Q402	2SA1576A/QR/-X	TRANSISTOR,S7700MS
Q403	DTC144WU	TRANSISTOR,S7700MS
	or PDTC144WU	TRANSISTOR,S7700MS
	or RN1309	TRANSISTOR,S7700MS
	or UN521E	TRANSISTOR,S7700MS
Q404	DTC144WU	TRANSISTOR,S7700MS
	or PDTC144WU	TRANSISTOR,S7700MS
	or RN1309	TRANSISTOR,S7700MS
	or UN521E	TRANSISTOR,S7700MS
Q405	2SA1576A/QR/-X	TRANSISTOR,S7700MS
Q2001	2SC4081/QRS/-X	TRANSISTOR
	or 2SD1819A/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
Q2002	2SC4081/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
	or 2SD1819A/QRS/-X	TRANSISTOR
Q2003	DTA144WU	TRANSISTOR
	or PDTA144WU	TRANSISTOR
	or RN2309	TRANSISTOR
	or UN511E	TRANSISTOR
Q2004	DTC144WU	TRANSISTOR
	or PDTC144WU	TRANSISTOR
	or RN1309	TRANSISTOR
	or UN521E	TRANSISTOR
Q2052	2SA1576A/QR/-X	TRANSISTOR
	or 2SB1218A/QR/-X	TRANSISTOR
	or 2PA1576/R/-X	TRANSISTOR
Q2053	DTC144WU	TRANSISTOR
	or PDTC144WU	TRANSISTOR
	or RN1309	TRANSISTOR
	or UN521E	TRANSISTOR
Q2054	2SA1576A/QR/-X	TRANSISTOR
	or 2PA1576/R/-X	TRANSISTOR
	or 2SB1218A/QR/-X	TRANSISTOR
Q2061	2SC4081/QRS/-X	TRANSISTOR,S7700MS
	or 2PC4081/R/-X	TRANSISTOR,S7700MS
	or 2SD1819A/QRS/-X	TRANSISTOR,S7700MS
Q2062	2SA1576A/QR/-X	TRANSISTOR,S7700MS
	or 2PA1576/R/-X	TRANSISTOR,S7700MS
	or 2SB1218A/QR/-X	TRANSISTOR,S7700MS
Q2251	DTA144WU	TRANSISTOR
	or PDTA144WU	TRANSISTOR
	or RN2309	TRANSISTOR
	or UN511E	TRANSISTOR
Q2252	DTC114EU	TRANSISTOR
	or PDTC114EU	TRANSISTOR
	or UN5211	TRANSISTOR
	or RN1302	TRANSISTOR
Q3001	2SD1819A/QRS/-X	TRANSISTOR
	or 2SC4081/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
Q3002	PTZ-NV16	PHOTO TRANSISTOR
	or PTZ-NV16A	PHOTO TRANSISTOR
Q3003	PTZ-NV16	PHOTO TRANSISTOR
	or PTZ-NV16A	PHOTO TRANSISTOR
Q3004	2SD1819A/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
	or 2SC4081/QRS/-X	TRANSISTOR

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		Q3005	2SD1819A/QRS/-X	TRANSISTOR	
			or 2SC4081/QRS/-X	TRANSISTOR	
			or 2PC4081/R/-X	TRANSISTOR	
		Q3007	UN521E	TRANSISTOR	
			or RN1309	TRANSISTOR	
			or DTC144WU	TRANSISTOR	
			or PDTC144WU	TRANSISTOR	
		Q4001	UN5211	TRANSISTOR	
			or RN1302	TRANSISTOR	
			or PDTC114EU	TRANSISTOR	
			or DTC114EU	TRANSISTOR	
		Q4003	UN5211	TRANSISTOR	
			or PDTC114EU	TRANSISTOR	
			or DTC114EU	TRANSISTOR	
			or RN1302	TRANSISTOR	
		Q5301	2SB1256	TRANSISTOR	
		Q5302	DTC114TU	TRANSISTOR	
			or PDTC114TU	TRANSISTOR	
			or UN5215	TRANSISTOR	
			or RN1311	TRANSISTOR	
	⚠	Q5303	2SD2144S/UVW/-T	TRANSISTOR	
		Q5304	2SD1450/ST/-T	TRANSISTOR	
			or 2SD1302/ST/-T	TRANSISTOR	
		Q5305	UN5111	TRANSISTOR	
			or RN2302	TRANSISTOR	
			or DTA114EU	TRANSISTOR	
			or PDTA114EU	TRANSISTOR	
		Q5310	DTC114EU	TRANSISTOR	
			or PDTC114EU	TRANSISTOR	
			or UN5211	TRANSISTOR	
			or RN1302	TRANSISTOR	
		Q5311	2SA1576A/RS/-X	TRANSISTOR	
		Q5312	2SD2144S/UV/-T	TRANSISTOR	
		Q5318	DTA114EU	TRANSISTOR	
			or PDTA114EU	TRANSISTOR	
			or UN5111	TRANSISTOR	
			or RN2302	TRANSISTOR	
		Q6030	2SB1218A/QR/-X	TRANSISTOR	
			or 2SA1576A/QR/-X	TRANSISTOR	
			or 2PA1576/R/-X	TRANSISTOR	
		Q6031	DTC114EU	TRANSISTOR	
			or PDTC114EU	TRANSISTOR	
			or RN1302	TRANSISTOR	
			or UN5211	TRANSISTOR	
		Q6032	DTC114EU	TRANSISTOR	
			or PDTC114EU	TRANSISTOR	
			or RN1302	TRANSISTOR	
			or UN5211	TRANSISTOR	
		Q7201	2SC1317/RS/-T	TRANSISTOR	
		D6	MTZJ5.1C	ZENER DIODE	
		D2001	1SS355	DIODE	
		D2121	MTZJ8.2C	ZENER DIODE	
		D2201	11ES2	DIODE	
			or 1A3G	DIODE	
		D3001	LNB2301L01VI	LE DIODE	
		D3002	1SS133	DIODE	
		D3003	RD39ES/B3/-T2	ZENER DIODE	
			or MTZJ39C	ZENER DIODE	
		D3004	11E2-T5	DIODE	
		D3005	11E2-T5	DIODE	
		D3007	NRSA02J-0R0X	MG RESISTOR,S7700MS	0Ω,1/10W

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION
		D3008	1SS355	DIODE
		D3011	1SS133	DIODE,S7700MS
		D3012	1SS133	DIODE,S7700MS
		D4001	1SS355	DIODE
		D4002	1SS355	DIODE
		D5001	S1WB/A/60-4102	BRIDGE DIODE
			or S1WB(A)60F4072X	BRIDGE DIODE
			or S1WB/A/60-X	BRIDGE DIODE
		D5101	AU01	FR DIODE
			or ERA18-04-T2	FR DIODE
			or 1SR153-400-T2	FR DIODE
			or 10ELS4	FR DIODE
		D5102	AU01	FR DIODE
			or ERA18-04-T2	FR DIODE
			or 1SR153-400-T2	FR DIODE
			or 10ELS4	FR DIODE
		D5103	AU01Z	FR DIODE
			or PG104RS	FR DIODE
			or 10ELS2	FR DIODE
			or ERA18-02-T2	FR DIODE
			or 1SR153-400-T2	FR DIODE
		D5201	AK04	DIODE,S7700MS
			AU01Z	FR DIODE,S6700MS
			or 1S4	SB DIODE,S7700MS
			or 10ELS2	FR DIODE,S6700MS
			or 11EQS04	SB DIODE,S7700MS
		D5202	FML-12S	FR DIODE
			or FCF06A20	FR DIODE
			or MA644	FR DIODE,S7700MS
			or YG901C2	FR DIODE
			or SF5LC20U	FR DIODE,S6700MS
			or ER602FCT	FR DIODE,S6700MS
		D5206	FMB-24	BARRIER DIODE
			or MA7D49	SB DIODE,S7700MS
			or YG801C04	SB DIODE
			or FSQ05A04B	SB DIODE
			or SF5SC4	SB DIODE,S6700MS
			or SB640FCT	SB DIODE,S6700MS
		D5209	ERA18-02-T2	FR DIODE
			or PG104RS	FR DIODE
			or 10ELS2	FR DIODE
			or 1SR153-400-T2	FR DIODE
		D5210	AU01Z	FR DIODE
			or ERA18-02-T2	FR DIODE
			or PG104RS	FR DIODE
			or 1SR153-400-T2	FR DIODE
			or 10ELS2	FR DIODE
		D5211	AU01Z	FR DIODE
			or ERA18-02-T2	FR DIODE
			or PG104RS	FR DIODE
			or 1SR153-400-T2	FR DIODE
			or 10ELS2	FR DIODE
		D5301	MTZJ15A	ZENER DIODE
			or RD15ES/B1/-T2	ZENER DIODE
		D5302	MTZJ6.8A	ZENER DIODE
			or RD6.8ES/B1/-T2	ZENER DIODE
		D5303	MTZJ27C	ZENER DIODE
			or RD27ES/B3/-T2	ZENER DIODE
		D5304	1SS133	DIODE
			or 1SS270A	DIODE
		D5305	11ES2	DIODE

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
			or ERA15-02-T2	DIODE	
			or 1A3G	DIODE	
		D5306	MTZJ12A	ZENER DIODE	
			or RD12ES/B1/-T2	ZENER DIODE	
		D5307	1SS133	DIODE	
			or 1SS270A	DIODE	
		D5309	1SS133	DIODE	
			or 1SS270A	DIODE	
		D5310	MTZJ11C	ZENER DIODE	
			or RD11ES/B3/-T2	ZENER DIODE	
		D6002	HZ30-2L-T2	ZENER DIODE	
			or HZ30-2LTD	Z DIODE (M)	
		R1	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
		R2	NRSA02J-152X	MG RESISTOR	1.5kΩ,1/10W
		R4	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R5	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R6	NRSA02J-273X	MG RESISTOR	27kΩ,1/10W
		R7	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
		R8	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R9	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R21	NRSA02J-222X	MG RESISTOR,S6700MS	2.2kΩ,1/10W
		R22	NRSA02J-222X	MG RESISTOR,S6700MS	2.2kΩ,1/10W
		R23	NRSA02J-182X	MG RESISTOR	1.8kΩ,1/10W
		R24	NRSA02J-331X	MG RESISTOR	330Ω,1/10W
		R25	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R26	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
		R27	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
		R28	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
		R29	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R30	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R31	NRSA02J-152X	MG RESISTOR	1.5kΩ,1/10W
		R32	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R33	NDC21HJ-120X	CAPACITOR	12pF,50V
		R34	NDC21HJ-220X	CAPACITOR	22pF,50V
		R36	NRSA02J-182X	MG RESISTOR	1.8kΩ,1/10W
		R38	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R40	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R41	NRSA02J-392X	MG RESISTOR	3.9kΩ,1/10W
		R42	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
		R46	NRSA02J-271X	MG RESISTOR,S7700MS	270Ω,1/10W
			NRSA02J-561X	MG RESISTOR,S6700MS	560Ω,1/10W
		R47	NRSA02J-821X	MG RESISTOR	820Ω,1/10W
		R48	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R51	NRSA02J-122X	MG RESISTOR	1.2kΩ,1/10W
		R54	NRSA02J-152X	MG RESISTOR	1.5kΩ,1/10W
		R62	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R68	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R69	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R70	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R77	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R88	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R90	NRSA02J-391X	MG RESISTOR	390Ω,1/10W
		R92	NRSA02J-152X	MG RESISTOR	1.5kΩ,1/10W
		R93	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R104	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
		R113	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R114	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R401	NRSA02J-221X	MG RESISTOR,S7700MS	220Ω,1/10W
		R402	NRSA02J-681X	MG RESISTOR,S7700MS	680Ω,1/10W
		R403	NRSA02J-561X	MG RESISTOR,S7700MS	560Ω,1/10W
		R404	NRSA02J-473X	MG RESISTOR,S7700MS	47kΩ,1/10W
		R405	NRSA02J-683X	MG RESISTOR,S7700MS	68kΩ,1/10W
		R406	NRSA02J-393X	MG RESISTOR,S7700MS	39kΩ,1/10W
		R407	NRSA02J-472X	MG RESISTOR,S7700MS	4.7kΩ,1/10W
		R408	NRSA02J-473X	MG RESISTOR,S7700MS	47kΩ,1/10W
		R409	NRSA02J-103X	MG RESISTOR,S7700MS	10kΩ,1/10W
		R2003	QRE141J-101Y	RESISTOR	100Ω,1/4W
		R2005	QRE141J-0R0Y	RESISTOR	0Ω,1/4W
		R2006	QRE141J-393Y	RESISTOR	39kΩ,1/4W
		R2007	NRSA02J-393X	MG RESISTOR	39kΩ,1/10W
		R2008	NRSA02J-123X	MG RESISTOR	12kΩ,1/10W
		R2009	NRSA02J-123X	MG RESISTOR	12kΩ,1/10W
		R2010	NRSA02J-123X	MG RESISTOR	12kΩ,1/10W
		R2011	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R2012	NRSA02J-153X	MG RESISTOR	15kΩ,1/10W
		R2013	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
		R2014	NRSA02J-224X	MG RESISTOR	220kΩ,1/10W
		R2015	NRSA02J-181X	MG RESISTOR	180Ω,1/10W
		R2016	NRSA02J-393X	MG RESISTOR	39kΩ,1/10W
		R2017	NRSA02J-183X	MG RESISTOR	18kΩ,1/10W
		R2018	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R2019	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R2020	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R2053	NRSA02J-682X	MG RESISTOR,S6700MS	6.8kΩ,1/10W
			NRSA02J-472X	MG RESISTOR,S7700MS	4.7kΩ,1/10W
		R2056	NRSA02J-101X	MG RESISTOR,S7700MS	100Ω,1/10W
			NRSA02J-470X	MG RESISTOR,S6700MS	47Ω,1/10W
		R2057	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R2058	NRSA02J-183X	MG RESISTOR	18kΩ,1/10W
		R2059	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R2060	NRSA02J-183X	MG RESISTOR	18kΩ,1/10W
		R2061	NRSA02J-273X	MG RESISTOR,S7700MS	27kΩ,1/10W
		R2062	NRSA02J-3R3X	MG RESISTOR,S7700MS	3.3Ω,1/10W
		R2063	NRSA02J-151X	MG RESISTOR,S7700MS	150Ω,1/10W
		R2064	NRSA02J-473X	MG RESISTOR,S7700MS	47kΩ,1/10W
		R2065	NRSA02J-183X	MG RESISTOR,S7700MS	18kΩ,1/10W
		R2121	QRE141J-151Y	RESISTOR	150Ω,1/4W
		R2202	NRSA02J-222X	MG RESISTOR,S7700MS	2.2kΩ,1/10W
			NRSA02J-332X	MG RESISTOR,S6700MS	3.3kΩ,1/10W
		R2203	NRSA02J-222X	MG RESISTOR,S7700MS	2.2kΩ,1/10W
			NRSA02J-332X	MG RESISTOR,S6700MS	3.3kΩ,1/10W
		R2204	NRSA02J-0R0X	MG RESISTOR,S6700MS	0Ω,1/10W
			NRSA02J-102X	MG RESISTOR,S7700MS	1kΩ,1/10W
		R2205	NRSA02J-0R0X	MG RESISTOR,S6700MS	0Ω,1/10W
			NRSA02J-102X	MG RESISTOR,S7700MS	1kΩ,1/10W
		R2206	QRE141J-101Y	RESISTOR	100Ω,1/4W
		R2208	QRE141J-101Y	RESISTOR	100Ω,1/4W
		R2209	QRE141J-101Y	RESISTOR	100Ω,1/4W
		R2210	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R2211	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R2213	QRE141J-393Y	RESISTOR	39kΩ,1/4W
		R2215	NRSA02J-153X	MG RESISTOR	15kΩ,1/10W
		R2217	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R2218	NRSA02J-393X	MG RESISTOR	39kΩ,1/10W
		R2219	QRE141J-393Y	RESISTOR	39kΩ,1/4W
		R2220	QRE141J-393Y	RESISTOR	39kΩ,1/4W
		R2222	NRSA02J-123X	MG RESISTOR	12kΩ,1/10W
		R2223	NRSA02J-123X	MG RESISTOR	12kΩ,1/10W
		R2224	NRSA02J-123X	MG RESISTOR	12kΩ,1/10W
		R2225	NRSA02J-153X	MG RESISTOR	15kΩ,1/10W
		R2226	NRSA02J-123X	MG RESISTOR	12kΩ,1/10W
		R2227	NRSA02J-123X	MG RESISTOR	12kΩ,1/10W

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		R2228	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R2229	QRE141J-563Y	RESISTOR	56kΩ,1/4W
		R2251	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R2252	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3011	QRE141J-0R0Y	RESISTOR	0Ω,1/4W
		R3012	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3013	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3016	QRE141J-0R0Y	RESISTOR	0Ω,1/4W
		R3017	QRE141J-0R0Y	RESISTOR	0Ω,1/4W
		R3018	QRE141J-682Y	RESISTOR	6.8kΩ,1/4W
		R3019	QRE141J-0R0Y	RESISTOR	0Ω,1/4W
		R3022	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3025	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3026	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3027	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3029	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3030	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3031	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3032	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3038	NRSA02J-152X	MG RESISTOR	1.5kΩ,1/10W
		R3040	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3041	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3042	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3044	QRE141J-0R0Y	RESISTOR	0Ω,1/4W
		R3046	QRE141J-102Y	RESISTOR	1kΩ,1/4W
		R3047	QRE141J-102Y	RESISTOR	1kΩ,1/4W
		R3048	QRE141J-102Y	RESISTOR	1kΩ,1/4W
		R3049	NRSA02J-331X	MG RESISTOR	330Ω,1/10W
		R3050	NRSA02J-331X	MG RESISTOR	330Ω,1/10W
		R3051	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R3052	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R3053	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R3054	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3055	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3056	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3057	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3058	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3059	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3060	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R3061	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R3062	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3063	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3066	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3069	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R3071	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3072	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3073	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3075	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R3076	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R3078	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3083	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3085	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3086	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3087	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3088	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3089	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3090	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3091	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3094	QRE141J-0R0Y	RESISTOR	0Ω,1/4W
		R3095	QRE141J-0R0Y	RESISTOR	0Ω,1/4W
		R3096	QRE141J-0R0Y	RESISTOR	0Ω,1/4W
		R3097	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3103	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3105	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3106	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3201	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3202	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3203	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3204	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R3205	QRE141J-181Y	RESISTOR	180Ω,1/4W
		R3206	QRE141J-183Y	RESISTOR	18kΩ,1/4W
		R3207	NRSA02J-183X	MG RESISTOR	18kΩ,1/10W
		R3208	NRSA02J-181X	MG RESISTOR	180Ω,1/10W
		R3209	NRSA02J-273X	MG RESISTOR	27kΩ,1/10W
		R3210	NRSA02J-181X	MG RESISTOR	180Ω,1/10W
		R3211	NRSA02J-273X	MG RESISTOR	27kΩ,1/10W
		R3212	NRSA02J-474X	MG RESISTOR	470kΩ,1/10W
		R3213	NRSA02J-334X	MG RESISTOR	330kΩ,1/10W
		R3214	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3215	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3216	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3217	NRSA02J-562X	MG RESISTOR	5.6kΩ,1/10W
		R3218	QRE141J-472Y	RESISTOR	4.7kΩ,1/4W
		R3219	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3220	NRSA02J-104X	MG RESISTOR	100kΩ,1/10W
		R3222	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3223	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3224	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3225	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3229	NRSA02J-105X	MG RESISTOR	1MΩ,1/10W
		R3230	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3231	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3233	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3234	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3235	NRSA02J-332X	MG RESISTOR	3.3kΩ,1/10W
		R3236	NRSA02J-332X	MG RESISTOR	3.3kΩ,1/10W
		R3237	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3238	QRE141J-103Y	RESISTOR	10kΩ,1/4W
		R3239	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3241	NRSA02J-104X	MG RESISTOR	100kΩ,1/10W
		R3242	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3244	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3251	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3671	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3672	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3673	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R4001	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R4003	NRSA02J-561X	MG RESISTOR	560Ω,1/10W
		R4004	NRSA02J-561X	MG RESISTOR	560Ω,1/10W
		R4005	NRSA02J-562X	MG RESISTOR	5.6kΩ,1/10W
		R4007	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R4008	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R4009	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R4010	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R4011	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R4012	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R4013	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R4014	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R4015	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
		R4016	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R4017	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R4018	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	R4019	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
	R4020	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
	R4021	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
	R5101	QRG02GJ-104	OMF RESISTOR	100kΩ,2W
	R5102	QRE141J-4R7Y	RESISTOR	4.7Ω,1/4W
	R5103	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
	R5104	QRG029J-154G	OMF RESISTOR	150kΩ,2W
	R5105	QRT01DJ-R39X	MF RESISTOR	0.39Ω,1W
	R5106	NRSA02J-562X	MG RESISTOR	5.6kΩ,1/10W
	R5301	QRE141J-1R0Y	RESISTOR,S7700MS	1Ω,1/4W
	R5302	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R5303	NRSA02J-122X	MG RESISTOR	1.2kΩ,1/10W
⚠	R5304	QRZ9005-221X	FUSI RESISTOR	220Ω,1/4W
	R5305	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
	R5306	NRSA02J-683X	MG RESISTOR	68kΩ,1/10W
	R5307	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R5308	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
	R5309	QRE141J-222Y	RESISTOR	2.2kΩ,1/4W
	R5313	QRE141J-222Y	RESISTOR	2.2kΩ,1/4W
	R5314	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R5317	NRSA02J-273X	MG RESISTOR	27kΩ,1/10W
	R5318	NRSA02J-273X	MG RESISTOR	27kΩ,1/10W
	R5319	QRE141J-221Y	RESISTOR	220Ω,1/4W
	R5321	QRE141J-221Y	RESISTOR	220Ω,1/4W
	R5322	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
	R5323	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
	R5327	NRVA02D-303X	CMF RESISTOR	30kΩ,1/10W
	R5329	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
	R5330	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
	R5332	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
	R6020	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R6021	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R6022	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R6030	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R6031	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R6032	NRSA02J-272X	MG RESISTOR	2.7kΩ,1/10W
	R6033	NRSA02J-182X	MG RESISTOR	1.8kΩ,1/10W
	R6060	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
	R6061	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
	R6508	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R6510	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R6553	QRE141J-471Y	RESISTOR	470Ω,1/4W
	R6554	QRE141J-471Y	RESISTOR	470Ω,1/4W
	R7202	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
	R7203	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
	R7204	QRE121J-100Y	RESISTOR	10Ω,1/2W
	R7251	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
	R7252	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
	R7253	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
	C1	NCB21EK-103X	CAPACITOR,S6700MS	0.01μF,25V
		NCB21EK-104X	CAPACITOR,S7700MS	0.1μF,25V
	C2	NCB21EK-103X	CAPACITOR,S6700MS	0.01μF,25V
		NCB21EK-104X	CAPACITOR,S7700MS	0.1μF,25V
	C3	NCB21EK-103X	CAPACITOR,S6700MS	0.01μF,25V
		NCB21EK-104X	CAPACITOR,S7700MS	0.1μF,25V
	C4	NCB21EK-103X	CAPACITOR,S6700MS	0.01μF,25V
		NCB21EK-104X	CAPACITOR,S7700MS	0.1μF,25V
	C5	QEKC0JM-337	E CAPACITOR	330μF,6.3V
	C6	NCB11EK-104X	CAPACITOR	0.1μF,25V
	C7	NCB21HK-102X	CAPACITOR	0.001μF,50V
	C8	NCB21EK-104X	CAPACITOR	0.1μF,25V

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	C9	QETN1HM-225	E CAPACITOR	2.2μF,50V
	C10	NDC21HJ-151X	CAPACITOR	150pF,50V
	C11	NCB21EK-104X	CAPACITOR	0.1μF,25V
	C14	NCB21EK-104X	CAPACITOR	0.1μF,25V
	C15	NCB21EK-103X	CAPACITOR	0.01μF,25V
	C16	NCB11EK-104X	CAPACITOR	0.1μF,25V
	C17	QEKJ1HM-335	E CAPACITOR	3.3μF,50V
	C18	QEKJ1HM-105	E CAPACITOR	1μF,50V
	C19	QEKJ1HM-225	E CAPACITOR	2.2μF,50V
	C20	QEKJ1HM-105	E CAPACITOR	1μF,50V
	C21	NCB21EK-104X	CAPACITOR	0.1μF,25V
	C22	QEKJ0JM-227	E CAPACITOR	220μF,6.3V
	C23	NCB21EK-104X	CAPACITOR	0.1μF,25V
	C24	NCB21EK-104X	CAPACITOR	0.1μF,25V
	C25	NDC21HJ-6R0X	CAPACITOR	6pF,50V
	C26	NCB21EK-104X	CAPACITOR	0.1μF,25V
	C27	NCB21HK-223X	CAPACITOR	0.022μF,50V
	C28	QEKJ1HM-335	E CAPACITOR	3.3μF,50V
	C29	NCB21EK-333X	CAPACITOR	0.033μF,25V
	C30	NCB21CK-474X	CAPACITOR	0.47μF,16V
	C31	QEKJ0JM-107	E CAPACITOR	100μF,6.3V
	C32	QCBB1HK-103	CAPACITOR	0.01μF,50V
	C33	QEKJ1HM-225	E CAPACITOR	2.2μF,50V
	C34	NCB21EK-104X	CAPACITOR	0.1μF,25V
	C35	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C36	QEKJ1EM-475	E CAPACITOR	4.7μF,25V
	C37	NCB21AK-105X	CAPACITOR	1μF,10V
	C38	QEKJ0JM-337	E CAPACITOR	330μF,6.3V
	C39	NCB21EK-104X	CAPACITOR	0.1μF,25V
	C40	QEKJ1CM-106	E CAPACITOR	10μF,16V
	C45	QCFB1HZ-104	CAPACITOR	0.1μF,50V
	C53	NDC21HJ-101X	CAPACITOR	100pF,50V
	C59	NCB21EK-104X	CAPACITOR	0.1μF,25V
	C60	QEKJ0JM-227	E CAPACITOR	220μF,6.3V
	C61	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C63	NCB21EK-104X	CAPACITOR	0.1μF,25V
	C64	NDC21HJ-220X	CAPACITOR	22pF,50V
	C65	QEKJ1HM-105	E CAPACITOR	1μF,50V
	C69	NCB21EK-104X	CAPACITOR,S6700MS	0.1μF,25V
	C70	NCB21EK-104X	CAPACITOR,S6700MS	0.1μF,25V
	C72	NDC21HJ-470X	CAPACITOR	47pF,50V
	C73	NDC21HJ-120X	CAPACITOR	12pF,50V
	C76	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C77	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C78	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C79	NDC21HJ-390X	CAPACITOR	39pF,50V
	C80	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C84	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
	C93	NDC21HJ-220X	CAPACITOR	22pF,50V
	C94	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	C103	NCB21EK-103X	CAPACITOR	0.01μF,25V
	C106	NCB21HK-821X	CAPACITOR	820pF,50V
	C107	NBE20JM-226X	T CAPACITOR	22μF,6.3V
	C108	NDC21HJ-680X	CAPACITOR	68pF,50V
	C109	NCB21CK-224X	CAPACITOR	0.22μF,16V
	C110	NDC21HJ-820X	CAPACITOR	82pF,50V
	C114	NDC21HJ-181X	CAPACITOR	180pF,50V
	C401	NCB21HK-103X	CAPACITOR,S7700MS	0.01μF,50V
	C402	NCB21HK-223X	CAPACITOR,S7700MS	0.022μF,50V
	C403	NDC21HJ-121X	CAPACITOR,S7700MS	120pF,50V
	C404	NDC21HJ-470X	CAPACITOR,S7700MS	47pF,50V

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		C406	NCB21HK-102X	CAPACITOR,S7700MS	0.001μF,50V
		C407	NDC21HJ-150X	CAPACITOR,S7700MS	15pF,50V
		C2001	QETN1HM-475	E CAPACITOR	4.7μF,50V
		C2002	QEKJ1CM-106	E CAPACITOR	10μF,16V
		C2003	QEKJ0JM-476	E CAPACITOR	47μF,6.3V
		C2004	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C2005	QEKJ1EM-475	E CAPACITOR	4.7μF,25V
		C2006	NCB21HK-123X	CAPACITOR	0.012μF,50V
		C2007	QEKJ1CM-226	E CAPACITOR	22μF,16V
		C2008	QERF1EM-475	E CAPACITOR	4.7μF,25V
		C2009	NCB21HK-102X	CAPACITOR	0.001μF,50V
		C2010	NCB21HK-152X	CAPACITOR	0.0015μF,50V
		C2011	QEKJ1EM-475	E CAPACITOR	4.7μF,25V
		C2012	QEKJ1EM-475	E CAPACITOR	4.7μF,25V
		C2013	NCB21HK-331X	CAPACITOR	330pF,50V
		C2051	NCB21HK-331X	CAPACITOR	330pF,50V
		C2052	QFN31HJ-333	F CAPACITOR	0.033μF,50V
		C2061	QFLC1HJ-333Z	F CAPACITOR,S7700MS	0.033μF,50V
		C2062	NCB21HK-332X	CAPACITOR,S7700MS	0.0033μF,50V
		C2063	NCB21HK-103X	CAPACITOR,S7700MS	0.01μF,50V
		C2064	QEKJ1CM-106	E CAPACITOR,S7700MS	10μF,16V
		C2201	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C2202	NCB21EK-333X	CAPACITOR	0.033μF,25V
		C2203	QEKJ1CM-106	E CAPACITOR	10μF,16V
		C2204	QDGB1HK-102Y	CAPACITOR	0.001μF,50V
		C2207	QEKJ1CM-476	E CAPACITOR	47μF,16V
		C2208	QETN1HM-475	E CAPACITOR	4.7μF,50V
		C2209	QERF1HM-104	E CAPACITOR,S7700MS	0.1μF,50V
			QERF1CM-106	E CAPACITOR,S6700MS	10μF,16V
		C2210	QEKJ1CM-106	E CAPACITOR,S6700MS	10μF,16V
			QEKJ1HM-104	E CAPACITOR,S7700MS	0.1μF,50V
		C2211	QERF1HM-105	E CAPACITOR,S7700MS	1μF,50V
		C2212	QEKJ1HM-105	E CAPACITOR,S7700MS	1μF,50V
		C2213	QEKJ1CM-106	E CAPACITOR	10μF,16V
		C2214	QEKJ1CM-106	E CAPACITOR	10μF,16V
		C2215	QERF1EM-475	E CAPACITOR	4.7μF,25V
		C2216	QEKJ1HM-474	E CAPACITOR	0.47μF,50V
		C2217	QEKJ1CM-106	E CAPACITOR	10μF,16V
		C2218	QEKJ1HM-474	E CAPACITOR	0.47μF,50V
		C2219	QEKJ1CM-106	E CAPACITOR	10μF,16V
		C2220	QEKJ1EM-475	E CAPACITOR	4.7μF,25V
		C2221	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C2222	QEKJ1HM-474	E CAPACITOR	0.47μF,50V
		C2223	QEKJ1HM-474	E CAPACITOR	0.47μF,50V
		C2224	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C2225	QEKJ1EM-475	E CAPACITOR	4.7μF,25V
		C2226	QEKJ1CM-106	E CAPACITOR	10μF,16V
		C2227	NCB21CK-104X	CAPACITOR	0.1μF,16V
		C2228	NCB21CK-104X	CAPACITOR	0.1μF,16V
		C2229	NDC21HJ-101X	CAPACITOR	100pF,50V
		C2230	NDC21HJ-101X	CAPACITOR	100pF,50V
		C2251	QEKJ1CM-476	E CAPACITOR	47μF,16V
		C2252	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C2253	NCB21CK-104X	CAPACITOR	0.1μF,16V
		C2254	NCB21CK-104X	CAPACITOR	0.1μF,16V
		C2255	NDC21HJ-181X	CAPACITOR	180pF,50V
		C3001	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C3002	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C3003	QEKJ1CM-106	E CAPACITOR	10μF,16V
		C3004	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C3008	NCB21HK-102X	CAPACITOR	0.001μF,50V

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		C3010	QEZ0244-229	EDL CAPACITOR	0.0022F,5.5V
		C3012	QEKJ0JM-107	E CAPACITOR	100μF,6.3V
		C3015	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C3016	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C3022	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C3024	NDC21HJ-120X	CAPACITOR	12pF,50V
		C3026	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C3027	NBE20JM-106X	T CAPACITOR	10μF,6.3V
		C3030	NBE20JM-226X	T CAPACITOR	22μF,6.3V
		C3031	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C3032	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C3033	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C3036	NDC21HJ-180X	CAPACITOR	18pF,50V
		C3037	NDC21HJ-120X	CAPACITOR	12pF,50V
		C3040	QDYB1CM-103Y	CAPACITOR	0.01μF,16V
		C3041	NDC21HJ-100X	CAPACITOR	10pF,50V
		C3042	QETJ0JM-477	E CAPACITOR	470μF,6.3V
		C3602	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C3652	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C4002	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C4003	NCB21HK-102X	CAPACITOR	0.001μF,50V
		C4004	NBE20JM-226X	T CAPACITOR	22μF,6.3V
		C4006	NBE40JM-476X	T CAPACITOR	47μF,6.3V
		C4007	NCB21HK-102X	CAPACITOR	0.001μF,50V
		C4008	NCB21AK-105X	CAPACITOR	1μF,10V
		C4009	NCB21HK-563X	CAPACITOR	0.056μF,50V
		C4010	NCB21EK-223X	CAPACITOR	0.022μF,25V
		C4011	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C4012	NCB21EK-224X	CAPACITOR	0.22μF,25V
		C4013	NCB21HK-563X	CAPACITOR	0.056μF,50V
		C4014	NDC21HJ-101X	CAPACITOR	100pF,50V
		C4015	NCB21HK-102X	CAPACITOR	0.001μF,50V
		C4017	NCB21HK-222X	CAPACITOR	0.0022μF,50V
	⚠	C5001	QFZ9073-683	F CAPACITOR	0.068μF,250V
	⚠	C5002	QFZ9051-333	F CAPACITOR	0.033μF,250V
	⚠	C5004	QCZ9071-222	CAPACITOR	0.0022μF,400V
		C5006	QEZ0375-686	E CAPACITOR	68μF,400V
		C5101	QCZ0212-472	CAPACITOR	0.0047μF,1kV
		C5102	QEMU1VM-276	E CAPACITOR	27μF,35V
		C5103	QCZ0302-330Z	CAPACITOR	33pF,1kV
		C5104	QFLC1HJ-471Z	F CAPACITOR	470pF,50V
		C5201	QEMU0JM-227	E CAPACITOR	220μF,6.3V
		C5202	QEMT1CM-827	E CAPACITOR	820μF,16V
		C5203	QEMT1AM-228	E CAPACITOR	2200μF,10V
		C5204	QETN2AM-475	E CAPACITOR	4.7μF,100V
		C5205	QETN1HM-106	E CAPACITOR	10μF,50V
		C5206	QEMU1EM-187	E CAPACITOR	180μF,25V
		C5207	QETN1CM-227	E CAPACITOR	220μF,16V
		C5208	QETN1AM-227	E CAPACITOR	220μF,10V
		C5213	QEMU0JM-227	E CAPACITOR	220μF,6.3V
		C5301	QETM0JM-108	E CAPACITOR	1000μF,6.3V
		C5303	QETN1CM-107	E CAPACITOR	100μF,16V
		C5304	QFVF1HJ-274Z	F CAPACITOR	0.27μF,50V
		C5305	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C5306	QEKJ0JM-107	E CAPACITOR	100μF,6.3V
		C5307	QEKJ0JM-476	E CAPACITOR	47μF,6.3V
		C5308	QETN1CM-107	E CAPACITOR	100μF,16V
		C5309	QETN1CM-107	E CAPACITOR	100μF,16V
		C6006	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C6007	QEMU0JM-227	E CAPACITOR	220μF,6.3V
		C6008	NCB21HK-103X	CAPACITOR	0.01μF,50V

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		C6014	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C6016	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C6023	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C6033	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		C6037	NBE20JM-106X	T CAPACITOR	10µF,6.3V
		C6553	QEKJ0JM-107	E CAPACITOR	100µF,6.3V
		C6555	NDC21HJ-1R0X	CAPACITOR	1pF,50V
		C7202	QETJ0JM-477	E CAPACITOR	470µF,6.3V
		C7251	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		L1	QQL29BJ-100Z	COIL	10µH
		L3	QQL29BJ-100Z	COIL	10µH
		L4	QQL29BJ-100Z	COIL	10µH
		L5	QQR0657-019Z	NOISE FILTER	
		L12	QQR0967-001	COIL	12µH
		L13	QQL071J-330Y	COIL	33µH
		L14	QQL071J-101Y	COIL	100µH
		L15	QQL29BJ-100Z	COIL	10µH
		L17	QQL071J-5R6Y	COIL	5.6µH
		L18	QQL071J-220Y	COIL	22µH
		L19	QQL071J-120Y	COIL	12µH
		L20	QQL071J-680Y	COIL	68µH
		L24	QQL071J-270Y	COIL	27µH
		L25	QQL29BJ-100Z	COIL	10µH
		L27	QQL071J-330Y	COIL	33µH
		L28	QQL071J-680Y	COIL	68µH
		L401	QQL071J-150Y	COIL,S7700MS	15µH
		L2251	QQL29BJ-100Z	COIL	10µH
		L2252	QQL29BJ-151Z	COIL	150µH
		L5201	PELN1184	COIL	33µH
		L5202	PU60944-330K	COIL	33µH
		L6002	QQL29BJ-100Z	COIL	10µH
		L6005	QQL29BJ-100Z	COIL	10µH
		L6031	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		L7201	QQL01BJ-101Z	COIL	100µH
		X1	QAX0576-001	CRYSTAL RESONATOR	
		X3001	QAX0444-001	CRYSTAL RESONATOR	
		X3002	QAX0527-001	CRYSTAL RESONATOR	
		S3002	QSW0695-001	PUSH SWITCH,S CASS SW	
		K2251	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		K2252	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		K2253	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		K5101	QQR0678-001Z	FERRITE BEAD	
		PC3001	GP3S123	IC(PHOTO SENSOR)	
		PC3002	GP3S123	IC(PHOTO SENSOR)	
	⚠	PC5101	PC123F2	PH COUPLER	
		T2052	PELN0861	OSC TRANSFORMER,S7700MS	
	⚠	T5001	QQS0052-001	SW TRANSFORMER	
		TU6001	QAU0175-001	TUNER	
		ET1	PQ21623-1-5	EARTH PLATE(RF)	
		ET2	LP40658-001A	EARTH PLATE(1)	
		HS1	LP40621-001A	HEAT SINK,IC5101	
		HS2	LP40479-001B	HEAT SINK,IC5301	
		SD1	LP30720-001A	SHIELD CASE(PRE/REC)	
		OT1	QYTDSF3010Z	SCREW,X2	
		OT2	PU59915-105	#500SPACER0.01,C45	
		OT3	QYTDST3008Z	SCREW,IC5101	
		OT4	QYTDST3006Z	SCREW,IC5301	
		WR101	QRE141J-0R0	RESISTOR,M/I	0Ω,1/4W
		FC5001	QNG0006-001Z	FUSE CLIP,F5001	
		FC5002	QNG0006-001Z	FUSE CLIP,F5001	
	⚠	LF5001	PELN1204-01-01	LINE FILTER	

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	⚠	LF5002	QQR0608-001	LINE FILTER	
		CN1	QGF1028C1-11	FPC CONNECTOR,(4-14)U.DRUM,S6700MS	
			QGF1028C1-13	FPC CONNECTOR,(4-16)U.DRUM,S7700MS	
		CN901	QGF1207C1-04	FPC CONNECTOR,(1-4)FRONT S IN	
		CN902	QGF1207C1-05	FPC CONNECTOR,(1-5)F_IN	
		CN903	QGB2024K1-12S	CONNECTOR,(1-12)TERMINAL	
		CN904	QGB2024K1-12S	CONNECTOR,(1-12)TERMINAL	
		CN905	QGB2024K1-05S	CONNECTOR,(1-5)TERMINAL	
		CN907	QGB2024K1-10S	CONNECTOR,(1-10)TERMINAL	
		CN2001	QGF1207C1-07	FPC CONNECTOR,(1-7)A/C HEAD	
		CN2002	QGB2532J1-02	CONNECTOR,(1-2)FE HEAD	
		CN2051	QGB2024K1-04S	CONNECTOR,(1-4)AUDIO ERASE	
		CN3001	QGF1207C1-05	FPC CONNECTOR,(1-5)DRUM MDA	
		CN3002	QGB2532J1-02	CONNECTOR,(1-2)LOADING MOTOR	
		CN3003	QGB2015M2-08	CONNECTOR,(1-8)CAPSTAN MOTOR	
		CN3004	QGB2534J2-04	CONNECTOR,(1-4)ROTARY ENCODER	
		CN3011	QGF1207C1-14	FPC CONNECTOR,(1-14)FRONT	
		CN3012	QGF1207C1-06	FPC CONNECTOR,(1-6)JOG,S7700MS	
	⚠	CN5001	QGA7901C3-02	CONNECTOR,(1-2)AC IN	
		CN6102	QGF1207C1-04	FPC CONNECTOR,(5-8)BS/PS	
	⚠	CP4001	ICP-N25	CIRCUIT PROTECTOR	
	⚠	CP5301	ICP-N38	CIRCUIT PROTECTOR	
	⚠	CP5302	ICP-N25	CIRCUIT PROTECTOR	
	⚠	F5001	QMF51E2-2R0J1	FUSE	T2.0A,AC250V

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2D DIGITAL BOARD ASSEMBLY(S6700MS)<05>

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		PW1	LPA10090-02C	2D DIGITAL BOARD ASSY	
		IC1201	JCP8036	IC	
	⚠	Q1201	2SC1317/RS/-T	TRANSISTOR	
		Q1202	2SA1576A/QR/-X	TRANSISTOR	
			or 2PA1576/R/-X	TRANSISTOR	
		Q1203	2SA1576A/QR/-X	TRANSISTOR	
			or 2PA1576/R/-X	TRANSISTOR	
		Q1204	2SC4081/QRS/-X	TRANSISTOR	
			or 2PC4081/R/-X	TRANSISTOR	
		Q1205	2SC4081/S/-X	TRANSISTOR	
		Q1206	2SC4081/QRS/-X	TRANSISTOR	
			or 2PC4081/R/-X	TRANSISTOR	
		D1201	RD4.3ES/B3/-T2	ZENER DIODE	
		R1201	NRSA02J-121X	MG RESISTOR	120Ω,1/10W
		R1202	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R1203	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R1204	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R1205	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R1206	NRSA02J-561X	MG RESISTOR	560Ω,1/10W
		R1207	NRSA02J-562X	MG RESISTOR	5.6kΩ,1/10W
		R1208	NRSA02J-123X	MG RESISTOR	12kΩ,1/10W
		R1209	NRSA02J-180X	MG RESISTOR	18Ω,1/10W
		R1210	NRSA02J-393X	MG RESISTOR	39kΩ,1/10W
		R1211	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R1212	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R1213	NRSA02J-331X	MG RESISTOR	330Ω,1/10W
		R1214	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R1215	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R1216	NRSA02J-331X	MG RESISTOR	330Ω,1/10W

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		R1217	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R1218	NRSA02J-301X	MG RESISTOR	300Ω,1/10W
		R1222	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R1224	NRSA02J-561X	MG RESISTOR	560Ω,1/10W
		R1225	NRSA02J-273X	MG RESISTOR	27kΩ,1/10W
		R1226	NRSA02J-153X	MG RESISTOR	15kΩ,1/10W
		R1227	NRSA02J-561X	MG RESISTOR	560Ω,1/10W
		R1228	NRSA02J-391X	MG RESISTOR	390Ω,1/10W
		R1230	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R1231	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R1232	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R1233	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		VR1201	QVZ3521-103Z	V RESISTOR,D/A LEVEL ADJ	
		C1201	QEKJ1CM-336	E CAPACITOR	33μF,16V
		C1202	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C1206	NDC21HJ-470X	CAPACITOR	47pF,50V
		C1207	NDC21HJ-470X	CAPACITOR	47pF,50V
		C1208	NDC21HJ-470X	CAPACITOR	47pF,50V
		C1210	NDC21HJ-330X	CAPACITOR	33pF,50V
		C1211	QEKJ0JM-107	E CAPACITOR	100μF,6.3V
		C1212	NCB21HK-102X	CAPACITOR	0.001μF,50V
		C1213	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1214	NCF21CZ-105X	CAPACITOR	1μF,16V
		C1215	QEKJ0JM-337	E CAPACITOR	330μF,6.3V
		C1216	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1217	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1218	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1219	NCF21CZ-105X	CAPACITOR	1μF,16V
		C1220	QEKJ0JM-337	E CAPACITOR	330μF,6.3V
		C1221	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C1222	NDC21HJ-680X	CAPACITOR	68pF,50V
		C1223	NDC21HJ-270X	CAPACITOR	27pF,50V
		C1224	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C1225	NDC21HJ-680X	CAPACITOR	68pF,50V
		C1226	NDC21HJ-270X	CAPACITOR	27pF,50V
		C1227	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C1228	QEKJ1EM-475	E CAPACITOR	4.7μF,25V
		C1229	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C1230	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1231	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1232	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1233	QDYB1CM-103Y	CAPACITOR	0.01μF,16V
		C1234	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1235	QEKJ0JM-337	E CAPACITOR	330μF,6.3V
		C1236	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1237	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1238	NDC21HJ-180X	CAPACITOR	18pF,50V
		C1239	NDC21HJ-560X	CAPACITOR	56pF,50V
		C1241	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C1243	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C1244	QEKJ1EM-475	E CAPACITOR	4.7μF,25V
		C1245	NDC21HJ-150X	CAPACITOR	15pF,50V
		C1246	QEKJ0JM-476	E CAPACITOR	47μF,6.3V
		C1248	NCB21HK-103X	CAPACITOR	0.01μF,50V
		L1201	QQL071J-1R0Y	COIL	1μH
		L1202	QQL29BJ-101Z	COIL	100μH
		L1203	QQL29BJ-101Z	COIL	100μH
		L1204	QQL29BJ-101Z	COIL	100μH
		L1205	QQL071J-6R8Y	COIL	6.8μH
		L1206	QQL071J-6R8Y	COIL	6.8μH
		L1207	QQL29BJ-101Z	COIL	100μH
		L1208	QQL071J-150Y	COIL	15μH
		LC1201	QQL29BJ-100Z	COIL	10μH
		SD1	LP30706-001B	SHIELD FRAME(S VHS)	
		SD2	LP30684-001A	SHIELD CASE(S VHS)	
		CN1201	QGG2502K1-17	HEADER PIN	

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3D DIGITAL/2M BOARD ASSEMBLY(S7700MS) <05>

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		PW1	LPA10105-01C	3D DIGITAL/2M BOARD ASSY	
		IC1401	JCP8026	IC	
		Q1401	2SC1317/RS/-T	TRANSISTOR	
		Q1402	2SA1576A/QR/-X	TRANSISTOR	
			or 2PA1576/R/-X	TRANSISTOR	
		Q1403	2SA1576A/QR/-X	TRANSISTOR	
			or 2PA1576/R/-X	TRANSISTOR	
		Q1404	DTC144WU	TRANSISTOR	
			or RN1309	TRANSISTOR	
			or UN521E	TRANSISTOR	
		Q1406	2SA1576A/QR/-X	TRANSISTOR	
			or 2PA1576/R/-X	TRANSISTOR	
		Q1407	2SA1576A/QR/-X	TRANSISTOR	
			or 2PA1576/R/-X	TRANSISTOR	
		Q1408	2SC4081/S/-X	TRANSISTOR	
		Q1410	2SC4081/QRS/-X	TRANSISTOR	
			or 2PC4081/R/-X	TRANSISTOR	
		Q1412	2SC4081/QRS/-X	TRANSISTOR	
			or 2PC4081/R/-X	TRANSISTOR	
		Q1413	2SA1576A/QR/-X	TRANSISTOR	
			or 2PA1576/R/-X	TRANSISTOR	
		Q1414	DTC144WU	TRANSISTOR	
			or UN521E	TRANSISTOR	
			or RN1309	TRANSISTOR	
		Q1417	2SC4081/QRS/-X	TRANSISTOR	
			or 2PC4081/R/-X	TRANSISTOR	
		Q1418	2SA1576A/QR/-X	TRANSISTOR	
			or 2PA1576/R/-X	TRANSISTOR	
		Q1419	DTC124TU	TRANSISTOR	
		Q1420	2SC4081/QRS/-X	TRANSISTOR	
			or 2PC4081/R/-X	TRANSISTOR	
		D1401	RD4.3ES/B2/-T2	ZENER DIODE	
			or MTZJ4.3B	ZENER DIODE	
		D1402	1SS133	DIODE	
			or 1N4148M	DIODE	
		R1401	NRSA02J-181X	MG RESISTOR	180Ω,1/10W
		R1402	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R1404	NRSA02J-182X	MG RESISTOR	1.8kΩ,1/10W
		R1406	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R1407	NRSA02J-272X	MG RESISTOR	2.7kΩ,1/10W
		R1408	NRSA02J-122X	MG RESISTOR	1.2kΩ,1/10W
		R1410	NRSA02J-391X	MG RESISTOR	390Ω,1/10W
		R1411	NRSA02J-152X	MG RESISTOR	1.5kΩ,1/10W
		R1413	NRSA02J-331X	MG RESISTOR	330Ω,1/10W
		R1414	NRSA02J-821X	MG RESISTOR	820Ω,1/10W
		R1415	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
		R1416	NRSA02J-104X	MG RESISTOR	100kΩ,1/10W
		R1417	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R1418	NRSA02J-471X	MG RESISTOR	470Ω,1/10W

#	⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
	R1421	NRSA02J-391X	MG RESISTOR	390Ω,1/10W
	R1426	NRSA02J-561X	MG RESISTOR	560Ω,1/10W
	R1427	NRSA02J-333X	MG RESISTOR	33kΩ,1/10W
	R1428	NRSA02J-393X	MG RESISTOR	39kΩ,1/10W
	R1429	NRSA02J-152X	MG RESISTOR	1.5kΩ,1/10W
	R1430	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
	R1431	NRSA02J-821X	MG RESISTOR	820Ω,1/10W
	R1432	NRSA02J-182X	MG RESISTOR	1.8kΩ,1/10W
	R1433	NRSA02J-510X	MG RESISTOR	51Ω,1/10W
	R1434	NRSA02J-153X	MG RESISTOR	15kΩ,1/10W
	R1435	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
	R1436	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
	R1437	NRSA02J-392X	MG RESISTOR	3.9kΩ,1/10W
	R1438	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
	R1439	NRSA02J-273X	MG RESISTOR	27kΩ,1/10W
	R1440	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
	R1441	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
	R1442	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
	R1446	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R1447	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R1448	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R1449	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R1450	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R1452	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
	R1453	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R1454	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R1455	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
	R1458	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
	R1459	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
	R1460	NRSA02J-273X	MG RESISTOR	27kΩ,1/10W
	R1461	NRSA02J-121X	MG RESISTOR	120Ω,1/10W
	R1463	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
	VR1401	QVZ3521-103Z	V RESISTOR,D/A LEVEL ADJ	
	C1401	QEKJ1CM-336	E CAPACITOR	33µF,16V
	C1402	NCB21HK-103X	CAPACITOR	0.01µF,50V
	C1403	QEKJ0JM-337	E CAPACITOR	330µF,6.3V
	C1404	NCF21EZ-104X	CAPACITOR	0.1µF,25V
	C1405	NCF21EZ-104X	CAPACITOR	0.1µF,25V
	C1406	NCB21HK-103X	CAPACITOR	0.01µF,50V
	C1407	NDC21HJ-680X	CAPACITOR	68pF,50V
	C1408	NDC21HJ-330X	CAPACITOR	33pF,50V
	C1410	QEKJ1EM-475	E CAPACITOR	4.7µF,25V
	C1411	NCF21EZ-104X	CAPACITOR	0.1µF,25V
	C1412	NDC21HJ-680X	CAPACITOR	68pF,50V
	C1413	NDC21HJ-330X	CAPACITOR	33pF,50V
	C1415	NCF21EZ-104X	CAPACITOR	0.1µF,25V
	C1416	QEKJ1CM-106	E CAPACITOR	10µF,16V
	C1417	NCF21EZ-104X	CAPACITOR	0.1µF,25V
	C1421	NDC21HJ-330X	CAPACITOR	33pF,50V
	C1422	NDC21HJ-680X	CAPACITOR	68pF,50V
	C1423	NCF21EZ-104X	CAPACITOR	0.1µF,25V
	C1424	NCB21HK-103X	CAPACITOR	0.01µF,50V
	C1425	NCB21HK-103X	CAPACITOR	0.01µF,50V
	C1426	NDC21HJ-390X	CAPACITOR	39pF,50V
	C1428	NDC21HJ-220X	CAPACITOR	22pF,50V
	C1429	QEKJ0JM-337	E CAPACITOR	330µF,6.3V
	C1430	NCF21EZ-104X	CAPACITOR	0.1µF,25V
	C1432	NCF21CZ-105X	CAPACITOR	1µF,16V
	C1433	NCF21EZ-104X	CAPACITOR	0.1µF,25V
	C1435	NCF21EZ-104X	CAPACITOR	0.1µF,25V
	C1436	NCF21EZ-104X	CAPACITOR	0.1µF,25V
	C1437	NCF21EZ-104X	CAPACITOR	0.1µF,25V
	C1438	NCF21EZ-104X	CAPACITOR	0.1µF,25V
	C1439	NCF21CZ-105X	CAPACITOR	1µF,16V
	C1440	NCF21EZ-104X	CAPACITOR	0.1µF,25V
	C1441	NCF21EZ-104X	CAPACITOR	0.1µF,25V
	C1442	NCF21CZ-105X	CAPACITOR	1µF,16V
	C1444	NCF21EZ-104X	CAPACITOR	0.1µF,25V
	C1445	NCF21EZ-104X	CAPACITOR	0.1µF,25V
	C1446	QEKJ0JM-107	E CAPACITOR	100µF,6.3V
	C1447	NCF21EZ-104X	CAPACITOR	0.1µF,25V
	C1448	QEKJ0JM-337	E CAPACITOR	330µF,6.3V
	C1449	NCF21EZ-104X	CAPACITOR	0.1µF,25V
	C1450	NCF21EZ-104X	CAPACITOR	0.1µF,25V
	C1451	QEKJ1EM-475	E CAPACITOR	4.7µF,25V
	C1452	NCF21EZ-104X	CAPACITOR	0.1µF,25V
	C1453	NCF21EZ-104X	CAPACITOR	0.1µF,25V
	C1454	NCF21EZ-104X	CAPACITOR	0.1µF,25V
	C1455	NCF21EZ-104X	CAPACITOR	0.1µF,25V
	C1459	NDC21HJ-470X	CAPACITOR	47pF,50V
	C1460	NDC21HJ-470X	CAPACITOR	47pF,50V
	C1461	NDC21HJ-470X	CAPACITOR	47pF,50V
	C1462	NDC21HJ-470X	CAPACITOR	47pF,50V
	C1463	QEKJ0JM-336	E CAPACITOR	33µF,6.3V
	C1465	NDC21HJ-470X	CAPACITOR	47pF,50V
	C1466	NDC21HJ-470X	CAPACITOR	47pF,50V
	C1467	NDC21HJ-470X	CAPACITOR	47pF,50V
	C1468	NDC21HJ-101X	CAPACITOR	100pF,50V
	C1470	NDC21HJ-330X	CAPACITOR	33pF,50V
	C1471	NCF21EZ-104X	CAPACITOR	0.1µF,25V
	C1472	NCF21EZ-104X	CAPACITOR	0.1µF,25V
	C1473	NCF21EZ-104X	CAPACITOR	0.1µF,25V
	L1401	QQL29BJ-100Z	COIL	10µH
	L1402	QQL071J-6R8Y	COIL	6.8µH
	L1403	QQL071J-6R8Y	COIL	6.8µH
	L1404	QQL071J-6R8Y	COIL	6.8µH
	L1405	QQL29BJ-100Z	COIL	10µH
	L1406	QQL071J-330Y	COIL	33µH
	L1407	QQL29BJ-100Z	COIL	10µH
	L1409	QQL071J-1R0Y	COIL	1µH
	LC1401	QQR0657-013Z	NOISE FILTER	
	LC1402	QQR0657-010Z	NOISE FILTER	
	SD1	LP30706-001B	SHIELD FRAME(S-VHS)	
	SD2	LP30684-001A	SHIELD CASE(S-VHS)	
	CN1401	QGG2502K1-17	HEADER PIN,(1-7)MAIN	

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TERMINAL BOARD ASSEMBLY <06>

PW1	LPA10100-06A	TERMINAL BOARD ASSY,S6700MS	
	LPA10100-07A	TERMINAL BOARD ASSY,S7700MS	
IC201	LC74775-9750	IC	
IC901	BH7636S	IC	
Q207	2SB1218A/QR/-X	TRANSISTOR	
	or 2SA1576A/QR/-X	TRANSISTOR	
	or 2PA1576/R/-X	TRANSISTOR	
Q901	UN5211	TRANSISTOR	

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
			or RN1302	TRANSISTOR	
			or DTC114EU	TRANSISTOR	
			or PDTC114EU	TRANSISTOR	
		Q902	2SB1218A/QR/-X	TRANSISTOR	
			or 2PA1576/R/-X	TRANSISTOR	
			or 2SA1576A/QR/-X	TRANSISTOR	
		Q903	2SB1218A/QR/-X	TRANSISTOR	
			or 2SA1576A/QR/-X	TRANSISTOR	
			or 2PA1576/R/-X	TRANSISTOR	
		Q904	2SB1218A/QR/-X	TRANSISTOR	
			or 2PA1576/R/-X	TRANSISTOR	
			or 2SA1576A/QR/-X	TRANSISTOR	
		Q905	2SD1819A/QRS/-X	TRANSISTOR	
			or 2SC4081/QRS/-X	TRANSISTOR	
			or 2PC4081/R/-X	TRANSISTOR	
		Q906	2SD1819A/QRS/-X	TRANSISTOR	
			or 2PC4081/R/-X	TRANSISTOR	
			or 2SC4081/QRS/-X	TRANSISTOR	
		Q907	2SD1819A/QRS/-X	TRANSISTOR	
			or 2SC4081/QRS/-X	TRANSISTOR	
			or 2PC4081/R/-X	TRANSISTOR	
		Q908	2SB1218A/QR/-X	TRANSISTOR	
			or 2PA1576/R/-X	TRANSISTOR	
			or 2SA1576A/QR/-X	TRANSISTOR	
		Q909	2SB1218A/QR/-X	TRANSISTOR	
			or 2SA1576A/QR/-X	TRANSISTOR	
			or 2PA1576/R/-X	TRANSISTOR	
		Q911	UN521E	TRANSISTOR	
			or RN1309	TRANSISTOR	
			or PDTC144WU	TRANSISTOR	
			or DTC144WU	TRANSISTOR	
		Q912	UN5215	TRANSISTOR	
			or RN1311	TRANSISTOR	
			or DTC114TU	TRANSISTOR	
			or PDTC114TU	TRANSISTOR	
		D201	QRE141J-152Y	RESISTOR	1.5kΩ,1/4W
		D202	QRE141J-101Y	RESISTOR	100Ω,1/4W
		D203	QRE141J-101Y	RESISTOR	100Ω,1/4W
		R202	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R208	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R209	NRSA02J-512X	MG RESISTOR	5.1kΩ,1/10W
		R210	NRSA02J-182X	MG RESISTOR	1.8kΩ,1/10W
		R211	NRSA02J-562X	MG RESISTOR	5.6kΩ,1/10W
		R212	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R213	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R214	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R216	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R218	NRSA02J-331X	MG RESISTOR	330Ω,1/10W
		R901	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
		R902	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
		R903	NRSA02J-680X	MG RESISTOR	68Ω,1/10W
		R904	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R905	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R906	NQL402M-100X	COIL	10μH
		R907	NQL402M-100X	COIL	10μH
		R908	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R909	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
		R910	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
		R911	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
		R912	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R913	NRSA02J-101X	MG RESISTOR	100Ω,1/10W

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		R914	NQL402M-100X	COIL	10μH
		R915	NQL402M-100X	COIL	10μH
		R916	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R917	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R918	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R919	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R920	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R921	QRE123J-391X	RESISTOR	390Ω,1/2W
		R922	QRE123J-391X	RESISTOR	390Ω,1/2W
		R923	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
		R924	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
		R931	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R932	NRSA02J-511X	MG RESISTOR	510Ω,1/10W
		R933	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R934	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R935	QRE141J-101Y	RESISTOR	100Ω,1/4W
		R936	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R937	QRE141J-101Y	RESISTOR	100Ω,1/4W
		R938	QRE141J-101Y	RESISTOR	100Ω,1/4W
		R939	QRE141J-101Y	RESISTOR	100Ω,1/4W
		R940	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R941	NRSA02J-332X	MG RESISTOR	3.3kΩ,1/10W
		R942	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R943	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R944	NRSA02J-272X	MG RESISTOR	2.7kΩ,1/10W
		R945	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R946	NRSA02J-561X	MG RESISTOR	560Ω,1/10W
		R947	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
		R949	QRE123J-331X	RESISTOR	330Ω,1/2W
		R951	NRSA02J-332X	MG RESISTOR	3.3kΩ,1/10W
		R952	NRSA02J-562X	MG RESISTOR	5.6kΩ,1/10W
		R953	NRSA02J-562X	MG RESISTOR	5.6kΩ,1/10W
		R964	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R965	NRSA02J-101X	MG RESISTOR,S7700MS	100Ω,1/10W
		C201	QEKJ0JM-227	E CAPACITOR	220μF,6.3V
		C204	NDC21HJ-100X	CAPACITOR	10pF,50V
		C206	NDC21HJ-330X	CAPACITOR	33pF,50V
		C207	NDC21HJ-330X	CAPACITOR	33pF,50V
		C209	NCB21CK-474X	CAPACITOR	0.47μF,16V
		C210	NDC21HJ-101X	CAPACITOR	100pF,50V
		C211	NDC21HJ-101X	CAPACITOR	100pF,50V
		C212	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C213	QEKJ1EM-475	E CAPACITOR	4.7μF,25V
		C214	NCB21CK-224X	CAPACITOR	0.22μF,16V
		C215	NCB21CK-224X	CAPACITOR	0.22μF,16V
		C216	QEKJ0JM-227	E CAPACITOR	220μF,6.3V
		C217	NDC21HJ-560X	CAPACITOR	56pF,50V
		C218	NCB21AK-105X	CAPACITOR	1μF,10V
		C222	NCB21AK-105X	CAPACITOR	1μF,10V
		C225	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C901	NCB21HK-331X	CAPACITOR	330pF,50V
		C902	NCB21HK-331X	CAPACITOR	330pF,50V
		C903	NCB21HK-471X	CAPACITOR	470pF,50V
		C904	NCB21HK-471X	CAPACITOR	470pF,50V
		C905	NCB21HK-331X	CAPACITOR	330pF,50V
		C906	NCB21HK-331X	CAPACITOR	330pF,50V
		C907	NCB21HK-471X	CAPACITOR	470pF,50V
		C908	NCB21HK-471X	CAPACITOR	470pF,50V
		C910	NCB21HK-102X	CAPACITOR	0.001μF,50V
		C912	NCB21HK-102X	CAPACITOR	0.001μF,50V
		C913	NCB21HK-103X	CAPACITOR	0.01μF,50V

#	⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
	C914	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C915	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C916	NCB21HK-223X	CAPACITOR	0.022μF,50V
	C917	NCB21HK-223X	CAPACITOR	0.022μF,50V
	C918	NCB21HK-223X	CAPACITOR	0.022μF,50V
	C921	NDC21HJ-330X	CAPACITOR	33pF,50V
	C923	QEKJ1CM-476	E CAPACITOR	47μF,16V
	C924	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C925	NCB21HK-223X	CAPACITOR	0.022μF,50V
	C927	QEKJ1CM-476	E CAPACITOR	47μF,16V
	C930	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C931	QEKJ1CM-476	E CAPACITOR	47μF,16V
	C933	NCB21HK-331X	CAPACITOR	330pF,50V
	C934	NCB21HK-331X	CAPACITOR	330pF,50V
	C935	NCB21HK-471X	CAPACITOR	470pF,50V
	C936	NCB21HK-471X	CAPACITOR	470pF,50V
	C937	NCB21HK-331X	CAPACITOR	330pF,50V
	C938	NCB21HK-331X	CAPACITOR	330pF,50V
	C939	NCB21HK-471X	CAPACITOR	470pF,50V
	C940	NCB21HK-471X	CAPACITOR	470pF,50V
	C941	QETJ0JM-477	E CAPACITOR	470μF,6.3V
	C942	QEKJ1CM-476	E CAPACITOR	47μF,16V
	C943	QEKJ1CM-476	E CAPACITOR	47μF,16V
	C945	QEKJ1CM-106	E CAPACITOR	10μF,16V
	C946	QEKJ1CM-106	E CAPACITOR	10μF,16V
	C947	QETJ0JM-477	E CAPACITOR	470μF,6.3V
	C951	QEKC1CM-476	E CAPACITOR	47μF,16V
	L201	QQL29BK-1R0Z	COIL	1μH
	L202	QQL071J-330Y	COIL	33μH
	L203	QQL071J-220Y	COIL	22μH
	L204	QQL29BJ-100Z	COIL	10μH
	L206	QQL071J-220Y	COIL	22μH
	L901	QQL231J-R22Y	COIL	0.22μH
	L902	QQL071J-1R0Y	COIL	1μH
	L903	QQL071J-150Y	COIL	15μH
	L904	QQL071J-150Y	COIL	15μH
	L910	QQL071J-1R0Y	COIL	1μH
	L913	QQL071J-4R7Y	COIL	4.7μH
	L914	QQL071J-4R7Y	COIL	4.7μH
	L915	QQL071J-4R7Y	COIL	4.7μH
	L916	QQL071J-4R7Y	COIL	4.7μH
	L917	QQL071J-4R7Y	COIL	4.7μH
	L918	QQL071J-4R7Y	COIL	4.7μH
	L919	QQL071J-4R7Y	COIL	4.7μH
	L920	QQL071J-4R7Y	COIL	4.7μH
	ET1	PQ21987-1-1	EATH PLATE(TERMINAL)	
⚠	TB1	LP30712-006B	TERMINAL BOARD ASSY,S6700MS	
⚠		LP30712-007B	TERMINAL BOARD ASSY,S7700MS	
	OT1	QYTDSF3008Z	SCREW,X8	
	J901	PEMC1177	RGB21PIN SOCKET,AV1 IN/OUT	
	J902	PEMC1177	RGB21PIN SOCKET,AV2/DECODER	
	J903	QND0084-001	S JACK,S_OUT	
	J912	QNN0023-003	PIN JACK,A.OUT(L)	
	J913	QNN0023-002	PIN JACK,A.OUT(R)	
	J925	PU60659	MINI JACK,SAT.CTL	
	J926	PU60659	MINI JACK	
	WR901	QUB320-07ZAZA	SIN TWIST WIRE	
	CN911	QGF1208F1-14	FPC CONNECTOR,(1-14)S-SUB	
	CN913	QGB2024J1-12S	CONNECTOR,(1-12)MAIN	
	CN914	QGB2024J1-12S	CONNECTOR,(1-12)MAIN	
	CN915	QGB2024J1-05S	CONNECTOR,(1-5)MAIN	
	CN917	QGB2024J1-10S	CONNECTOR,(1-10)MAIN	

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AUDIO CONTROL HEAD BOARD ASSEMBLY <12>

REF No.	PART No.	PART NAME, DESCRIPTION
PW1	LPA10010-01A1	A/C HEAD BOARD ASSY
CN1	QGF1208F1-07	FPC CONNECTOR

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DEMOD BOARD ASSEMBLY <14>

REF No.	PART No.	PART NAME, DESCRIPTION	
PW1	LPA10094-01C	DEMOD BOARD ASSY	
IC6701	MSP34VCDT	IC	
Q6701	2SC3936/BC/-X	TRANSISTOR	
D6701	1SS133	DIODE	
	or 1N4148M	DIODE	
R6701	NRSA02J-392X	MG RESISTOR	3.9kΩ,1/10W
R6702	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
R6703	NRSA02J-470X	MG RESISTOR	47Ω,1/10W
R6704	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R6705	NRSA02J-271X	MG RESISTOR	270Ω,1/10W
R6706	NRSA02J-151X	MG RESISTOR	150Ω,1/10W
R6707	NRSA02J-220X	MG RESISTOR	22Ω,1/10W
R6708	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R6709	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R6710	NRSA02J-100X	MG RESISTOR	10Ω,1/10W
R6711	NRSA02J-684X	MG RESISTOR	680kΩ,1/10W
R6712	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R6714	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R6716	NRSA02J-470X	MG RESISTOR	47Ω,1/10W
R6719	QRE141J-103Y	RESISTOR	10kΩ,1/4W
R6720	NRSA02J-562X	MG RESISTOR	5.6kΩ,1/10W
R6721	NRSA02J-562X	MG RESISTOR	5.6kΩ,1/10W
C6701	NCB21HK-103X	CAPACITOR	0.01μF,50V
C6702	NCB21HK-222X	CAPACITOR	0.0022μF,50V
C6704	NCB21HK-103X	CAPACITOR	0.01μF,50V
C6705	NCB21HK-102X	CAPACITOR	0.001μF,50V
C6707	NDC21HJ-470X	CAPACITOR	47pF,50V
C6708	NDC21HJ-8R0X	CAPACITOR	8pF,50V
C6709	NDC21HJ-1R0X	CAPACITOR	1pF,50V
C6713	NCF21CZ-224X	CAPACITOR	0.22μF,16V
C6714	NCB21HK-682X	CAPACITOR	0.0068μF,50V
C6715	QEKJ1HM-225	E CAPACITOR	2.2μF,50V
C6716	NCB21HK-682X	CAPACITOR	0.0068μF,50V
C6717	QEKJ1HM-225	E CAPACITOR	2.2μF,50V
C6719	QEKJ1CM-106	E CAPACITOR	10μF,16V
C6720	QEKJ1CM-106	E CAPACITOR	10μF,16V
C6721	NCB21HK-103X	CAPACITOR	0.01μF,50V
C6723	NCB21HK-103X	CAPACITOR	0.01μF,50V
C6724	QEKJ1HM-225	E CAPACITOR	2.2μF,50V
L6701	QQL231J-1R0Y	COIL	1μH
L6702	QQL231J-3R3Y	COIL	3.3μH
X6701	QAX0443-001	CRYSTAL RESONATOR	
K6701	NQR0200-003X	FERRITE BEAD	
K6702	NQR0200-003X	FERRITE BEAD	
K6703	NQR0200-003X	FERRITE BEAD	

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		K6704	NQR0200-003X	FERRITE BEAD	
		K6705	NQR0200-003X	FERRITE BEAD	
		K6706	NQR0200-003X	FERRITE BEAD	
		K6707	NQR0200-003X	FERRITE BEAD	
		BK1	LP40077-001A	BRACKET(BOARD)	
		CN6701	QGG2502K1-10	HEADER PIN	

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S-SUB BOARD ASSEMBLY <15>

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		PW1	LPA10103-02A	S-SUB BOARD ASSY	
		IC501	JCP8018	IC	
			or JCP8028	IC	
			or JCP8028-01	IC	
		IC502	VC2076DP	IC	
		R503	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
		R504	NRSA02J-332X	MG RESISTOR	3.3kΩ,1/10W
		R505	NRSA02J-392X	MG RESISTOR	3.9kΩ,1/10W
		R506	NRSA02J-391X	MG RESISTOR	390Ω,1/10W
		R507	NRSA02J-122X	MG RESISTOR	1.2kΩ,1/10W
		R508	NRSA02J-151X	MG RESISTOR	150Ω,1/10W
		R509	NRSA02J-162X	MG RESISTOR	1.6kΩ,1/10W
		R510	NRVA02D-102X	CMF RESISTOR	1kΩ,1/10W
		R511	NRVA02D-471X	CMF RESISTOR	470Ω,1/10W
		R512	NRVA02D-102X	CMF RESISTOR	1kΩ,1/10W
		R513	NRVA02D-152X	CMF RESISTOR	1.5kΩ,1/10W
		R514	NRVA02D-332X	CMF RESISTOR	3.3kΩ,1/10W
		R515	NRVA02D-332X	CMF RESISTOR	3.3kΩ,1/10W
		R516	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R517	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R525	NRSA02J-125X	MG RESISTOR	1.2MΩ,1/10W
		R531	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R532	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R533	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R534	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R535	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R536	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		C501	QEKJ1HM-225	E CAPACITOR	2.2μF,50V
		C502	QEKJ1EM-475	E CAPACITOR	4.7μF,25V
		C503	QEKJ1HM-225	E CAPACITOR	2.2μF,50V
		C504	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C505	QEKJ1EM-475	E CAPACITOR	4.7μF,25V
		C506	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C507	QEKJ0JM-227	E CAPACITOR	220μF,6.3V
		C508	QEPF1HM-474	NP E CAPACITOR	0.47μF,50V
		C509	QEKJ1CM-106	E CAPACITOR	10μF,16V
		C510	QEKJ0JM-227	E CAPACITOR	220μF,6.3V
		C511	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C512	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C513	QEKJ1EM-475	E CAPACITOR	4.7μF,25V
		C514	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C515	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C516	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C517	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C518	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C519	QEKJ1HM-225	E CAPACITOR	2.2μF,50V
		C520	QERF1EM-475	E CAPACITOR	4.7μF,25V
		C521	QEKJ1EM-475	E CAPACITOR	4.7μF,25V
		C522	QEKJ1HM-225	E CAPACITOR	2.2μF,50V
		C523	QEKJ1HM-225	E CAPACITOR	2.2μF,50V
		C524	NDC21HG-301X	CAPACITOR	300pF,50V
		C525	NDC21HG-301X	CAPACITOR	300pF,50V
		C526	NDC21HJ-101X	CAPACITOR	100pF,50V
		C527	NDC21HJ-181X	CAPACITOR	180pF,50V
		C528	NDC21HG-271X	CAPACITOR	270pF,50V
		C529	NDC21HG-820X	CAPACITOR	82pF,50V
		C530	NDC21HG-221X	CAPACITOR	220pF,50V
		C531	NDC21HG-301X	CAPACITOR	300pF,50V
		C532	NDC21HG-301X	CAPACITOR	300pF,50V
		C533	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C534	QETJ0JM-477	E CAPACITOR	470μF,6.3V
		C535	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C551	QEKJ1HM-105	E CAPACITOR	1μF,50V
		C553	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C554	QEKJ1HM-105	E CAPACITOR	1μF,50V
		C556	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C557	QEKJ1HM-105	E CAPACITOR	1μF,50V
		C559	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C560	QEKJ1HM-105	E CAPACITOR	1μF,50V
		C561	QEKJ1HM-105	E CAPACITOR	1μF,50V
		C562	QEKJ1HM-105	E CAPACITOR	1μF,50V
		C564	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C566	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C568	NDC21HJ-680X	CAPACITOR	68pF,50V
		C569	NDC21HJ-680X	CAPACITOR	68pF,50V
		C570	NDC21HJ-680X	CAPACITOR	68pF,50V
		C571	NDC21HJ-680X	CAPACITOR	68pF,50V
		C572	NDC21HJ-680X	CAPACITOR	68pF,50V
		C573	NDC21HJ-680X	CAPACITOR	68pF,50V
		L501	QQL29BJ-100Z	COIL	10μH
		L503	QQL29BJ-100Z	COIL	10μH
		L504	QQL29BJ-100Z	COIL	10μH
		BK1	LP40077-001A	BRACKET(BOARD)	
		CN511	QGG2503K2-30	HEADER PIN,(1-30)MAIN	
		CN512	QGF1209F2-14	FFC/FPC CONNECTOR,(1-14)TERMINAL	
		CN513	QGF1208F1-09	FPC CONNECTOR,(1-9)P/S	

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DISPLAY BOARD ASSEMBLY(S6700MS) <28>

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		PW1	LPA10097-01A1	DISPLAY BOARD ASSY	
		IC7001	M35500BGP	IC	
			or M35500BFP	IC	
			or M35500AGP	IC	
		IC7002	PNA4652M00XB	IR DETECT UNIT	
			or GP1U281X	IR DETECT UNIT	
		D7002	RD9.1ES/B2/-T2	ZENER DIODE	
			or UZ9.1BSB	ZENER DIODE	
			or MTZJ9.1B	ZENER DIODE	
		D7004	1SS133	DIODE	
		D7005	1SS133	DIODE	
		D7009	SLR-342MC3F	LE DIODE	
		D7010	SLR-342VC3F	LE DIODE	
		R7001	QRE141J-471Y	RESISTOR	470Ω,1/4W
		R7002	QRE141J-471Y	RESISTOR	470Ω,1/4W

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
R7003	QRE141J-471Y	RESISTOR	470Ω,1/4W
R7004	QRE141J-471Y	RESISTOR	470Ω,1/4W
R7005	QRE141J-103Y	RESISTOR	10kΩ,1/4W
R7006	QRE141J-103Y	RESISTOR	10kΩ,1/4W
R7007	QRE141J-103Y	RESISTOR	10kΩ,1/4W
R7008	QRE141J-103Y	RESISTOR	10kΩ,1/4W
R7013	QRE141J-103Y	RESISTOR	10kΩ,1/4W
R7020	QRE141J-103Y	RESISTOR	10kΩ,1/4W
R7021	QRE141J-122Y	RESISTOR	1.2kΩ,1/4W
R7022	QRE141J-182Y	RESISTOR	1.8kΩ,1/4W
R7023	QRE141J-222Y	RESISTOR	2.2kΩ,1/4W
R7024	QRE141J-272Y	RESISTOR	2.7kΩ,1/4W
R7025	QRE141J-472Y	RESISTOR	4.7kΩ,1/4W
R7026	QRE141J-682Y	RESISTOR	6.8kΩ,1/4W
R7027	QRE141J-153Y	RESISTOR	15kΩ,1/4W
R7028	QRE141J-393Y	RESISTOR	39kΩ,1/4W
R7030	QRE141J-103Y	RESISTOR	10kΩ,1/4W
R7031	QRE141J-122Y	RESISTOR	1.2kΩ,1/4W
R7032	QRE141J-182Y	RESISTOR	1.8kΩ,1/4W
R7033	QRE141J-222Y	RESISTOR	2.2kΩ,1/4W
R7034	QRE141J-272Y	RESISTOR	2.7kΩ,1/4W
R7035	QRE141J-472Y	RESISTOR	4.7kΩ,1/4W
R7036	QRE141J-682Y	RESISTOR	6.8kΩ,1/4W
R7037	QRE141J-153Y	RESISTOR	15kΩ,1/4W
R7038	QRE141J-393Y	RESISTOR	39kΩ,1/4W
R7040	QRE141J-331Y	RESISTOR	330Ω,1/4W
R7041	QRE141J-331Y	RESISTOR	330Ω,1/4W
C7001	QCFB1HZ-104	CAPACITOR	0.1μF,50V
C7002	QETN1HM-106	E CAPACITOR	10μF,50V
C7007	QETN1HM-476	E CAPACITOR	47μF,50V
C7009	QCSB1HJ-150	CAPACITOR	15pF,50V
C7010	QCFB1HZ-104	CAPACITOR	0.1μF,50V
C7011	QETN1AM-227	E CAPACITOR	220μF,10V
C7019	QDVB1EZ-223Y	CAPACITOR	0.022μF,25V
C7192	QCBB1HJ-681	CAPACITOR	680pF,50V
C7194	QCBB1HJ-681	CAPACITOR	680pF,50V
L7191	QRE141J-101Y	RESISTOR	100Ω,1/4W
L7192	QRE141J-101Y	RESISTOR	100Ω,1/4W
L7196	QQL071J-1R0Y	COIL	1μH
S7001	QSW0456-002Z	TACT SWITCH,STAND-BY	
S7002	QSW0456-002Z	TACT SWITCH,CH+	
S7003	QSW0456-002Z	TACT SWITCH,CH-	
S7004	QSW0456-002Z	TACT SWITCH,REC	
S7005	QSW0456-002Z	TACT SWITCH,PAUSE	
S7010	QSW0456-002Z	TACT SWITCH,TIMER	
S7011	QSW0456-002Z	TACT SWITCH,REVIEW	
S7012	QSW0456-002Z	TACT SWITCH,SVHS ET	
S7013	QSW0456-002Z	TACT SWITCH,SAT.CTL	
S7014	QSW0456-002Z	TACT SWITCH,STOP/EJECT	
S7015	QSW0456-002Z	TACT SWITCH,SP/LP	
S7016	QSW0456-002Z	TACT SWITCH,PUSH JOG-	
S7017	QSW0456-002Z	TACT SWITCH,PUSH JOG+	
DI7001	QLF0031-002	FL TUBE	
HD1	LP30140-001A	FDP HOLDER L,DI7001	
HD2	LP30141-001A	FDP HOLDER R,DI7001	
HD3	PQM30038-7	LED HOLDER,D7009	
HD4	PQM30038-7	LED HOLDER,D7010	
J7191	PEMC1009-04	PIN JACK,VIDEO IN	
J7192	PEMC1010-03	PIN JACK(SW),AUDIO(L)IN	
J7193	PEMC1010-02	PIN JACK(SW),AUDIO(R)IN	
CN7001	QGF1207C1-14	FPC CONNECTOR,(1-14)MAIN	
CN7002	QGF1207C1-06	FPC CONNECTOR,(1-6)SHUTTLE/PLAY	

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION
CN7191	QGF1207C1-05	FPC CONNECTOR,(1-5)MAIN

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DISPLAY BOARD ASSEMBLY(S7700MS) <28>

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
PW1	LPA10054-17A1	DISPLAY BOARD ASSY	
IC7001	M35500BGP	IC	
	or M35500BFP	IC	
	or M35500AGP	IC	
IC7002	PNA4652M00XB	IR DETECT UNIT	
	or GP1U281X	IR DETECT UNIT	
D7002	RD9.1ES/B2/-T2	ZENER DIODE	
	or UZ9.1BSB	ZENER DIODE	
	or MTZJ9.1B	ZENER DIODE	
D7004	1SS133	DIODE	
D7005	1SS133	DIODE	
D7006	1SS133	DIODE	
D7009	SLR-342MC3F	LE DIODE	
D7010	SLR-342VC3F	LE DIODE	
D7011	SLR-342MC3F	LE DIODE	
R7001	QRE141J-471Y	RESISTOR	470Ω,1/4W
R7002	QRE141J-471Y	RESISTOR	470Ω,1/4W
R7003	QRE141J-471Y	RESISTOR	470Ω,1/4W
R7004	QRE141J-471Y	RESISTOR	470Ω,1/4W
R7005	QRE141J-103Y	RESISTOR	10kΩ,1/4W
R7006	QRE141J-103Y	RESISTOR	10kΩ,1/4W
R7007	QRE141J-103Y	RESISTOR	10kΩ,1/4W
R7008	QRE141J-103Y	RESISTOR	10kΩ,1/4W
R7013	QRE141J-103Y	RESISTOR	10kΩ,1/4W
R7020	QRE141J-103Y	RESISTOR	10kΩ,1/4W
R7021	QRE141J-122Y	RESISTOR	1.2kΩ,1/4W
R7022	QRE141J-182Y	RESISTOR	1.8kΩ,1/4W
R7023	QRE141J-222Y	RESISTOR	2.2kΩ,1/4W
R7024	QRE141J-272Y	RESISTOR	2.7kΩ,1/4W
R7025	QRE141J-472Y	RESISTOR	4.7kΩ,1/4W
R7026	QRE141J-682Y	RESISTOR	6.8kΩ,1/4W
R7027	QRE141J-153Y	RESISTOR	15kΩ,1/4W
R7028	QRE141J-393Y	RESISTOR	39kΩ,1/4W
R7030	QRE141J-103Y	RESISTOR	10kΩ,1/4W
R7031	QRE141J-122Y	RESISTOR	1.2kΩ,1/4W
R7032	QRE141J-182Y	RESISTOR	1.8kΩ,1/4W
R7033	QRE141J-222Y	RESISTOR	2.2kΩ,1/4W
R7034	QRE141J-272Y	RESISTOR	2.7kΩ,1/4W
R7035	QRE141J-472Y	RESISTOR	4.7kΩ,1/4W
R7036	QRE141J-682Y	RESISTOR	6.8kΩ,1/4W
R7037	QRE141J-153Y	RESISTOR	15kΩ,1/4W
R7038	QRE141J-393Y	RESISTOR	39kΩ,1/4W
R7040	QRE141J-331Y	RESISTOR	330Ω,1/4W
R7041	QRE141J-331Y	RESISTOR	330Ω,1/4W
R7042	QRE141J-331Y	RESISTOR	330Ω,1/4W
C7001	QCFB1HZ-104	CAPACITOR	0.1μF,50V
C7002	QETN1HM-106	E CAPACITOR	10μF,50V
C7007	QETN1HM-476	E CAPACITOR	47μF,50V
C7009	QCSB1HJ-150	CAPACITOR	15pF,50V
C7010	QCFB1HZ-104	CAPACITOR	0.1μF,50V
C7011	QETN1AM-227	E CAPACITOR	220μF,10V
C7019	QDVB1EZ-223Y	CAPACITOR	0.022μF,25V
C7192	QCBB1HJ-681	CAPACITOR	680pF,50V
C7194	QCBB1HJ-681	CAPACITOR	680pF,50V
L7191	QRE141J-101Y	RESISTOR	100Ω,1/4W

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		L7192	QRE141J-101Y	RESISTOR	100Ω,1/4W
		L7196	QQL231J-1R0Y	COIL	1μH
		S7001	QSW0456-002Z	TACT SWITCH,STAND BY	
		S7002	QSW0456-002Z	TACT SWITCH,CH+	
		S7003	QSW0456-002Z	TACT SWITCH,CH-	
		S7004	QSW0456-002Z	TACT SWITCH,REC	
		S7005	QSW0456-002Z	TACT SWITCH,PAUSE	
		S7010	QSW0456-002Z	TACT SWITCH,D.TBC/NR	
		S7011	QSW0456-002Z	TACT SWITCH,SP/LP	
		S7012	QSW0456-002Z	TACT SWITCH,SVHS ET	
		S7013	QSW0456-002Z	TACT SWITCH,SAT CTL	
		S7014	QSW0456-002Z	TACT SWITCH,STOP/EJECT	
		S7015	QSW0456-002Z	TACT SWITCH,PLAY	
		S7016	QSW0456-002Z	TACT SWITCH,INSERT	
		S7017	QSW0456-002Z	TACT SWITCH,A.DUB	
		DI7001	QLF0032-002	FL TUBE	
		HD1	PQ34668	FDP HOLDER(L),DI7001	
		HD2	PQ34669	FDP HOLDER(R),DI7001	
		HD3	PQM30038-7	LED HOLDER	
		HD4	PQM30038-7	LED HOLDER	
		HD5	PQM30038-7	LED HOLDER	
		J7191	PEMC1009-04	PIN JACK,VIDEO IN	
		J7192	PEMC1010-03	PIN JACK(SW),AUDIO(L)IN	
		J7193	PEMC1010-02	PIN JACK(SW),AUDIO(R)IN	
		CN7001	QGF1207C1-14	FPC CONNECTOR,(1-14)MAIN	
		CN7191	QGF1207C1-05	FPC CONNECTOR,(1-5)MAIN	

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REC SAFETY BOARD ASSEMBLY(S6700MS) <32>

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION
		PW2	LPA10097-01A2	REC SAFETY BOARD ASSY
		S7041	QSW0602-004	PUSH SWITCH
		FW7001	QUM022-07A4A4	PARA RIBON WIRE

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REC SAFETY BOARD ASSEMBLY(S7700MS) <32>

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION
		PW2	LPA10054-01C2	REC SAFETY BOARD ASSY
		S7041	QSW0602-004	PUSH SWITCH
		FW7001	QUM032-07A4A4	PARA RIBON WIRE

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S JACK BOARD ASSEMBLY(S7700MS) <36>

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION
		PW4	LPA10054-17A4	S JACK BOARD ASSY
		J7194	QND0084-001	S JACK,S IN
		CN7192	QGF1207F1-04	FPC CONNECTOR,(1-4)MAIN

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S JACK BOARD ASSEMBLY(S6700MS) <36>

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION
		PW4	LPA10097-01A4	S JACK BOARD ASSY
		J7194	QND0084-001	S JACK
		CN7192	QGF1207F1-04	FPC CONNECTOR,(1-4)MAIN

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JOG BOARD ASSEMBLY(S7700MS) <37>

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION
		PW3	LPA10054-03C3	JOG BOARD ASSY
		UN7091	PEME0786-02	JOG SHUTTLE ASSY
		CN7005	QGF1207F1-06	FPC CONNECTOR,(1-6)MAIN

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AUDIO ERASE BOARD ASSEMBLY <46>

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		PW2	LPA10106-01A2	AUDIO ERASE BOARD ASSY,S6700MS	
			LPA10106-02A2	AUDIO ERASE BOARD ASSY,S7700MS	
		Q2051	2SC4081/QRS/-X	TRANSISTOR	
			or 2SD1819A/QRS/-X	TRANSISTOR	
			or 2PC4081/R/-X	TRANSISTOR	
		R2054	NRSA02J-153X	MG RESISTOR,S7700MS	15kΩ,1/10W
			NRSA02J-123X	MG RESISTOR,S6700MS	12kΩ,1/10W
		R2055	NRSA02J-3R3X	MG RESISTOR	3.3Ω,1/10W
		C2052	QFLC1HJ-333Z	F CAPACITOR	0.033μF,50V
			QFLC1HJ-823Z	F CAPACITOR	0.082μF,50V
		C2053	NCB21HK-332X	CAPACITOR,S7700MS	0.0033μF,50V
			NCB21HK-472X	CAPACITOR,S6700MS	0.0047μF,50V
		C2054	NCB21EK-223X	CAPACITOR,S6700MS	0.022μF,25V
			NCB21HK-103X	CAPACITOR,S7700MS	0.01μF,50V
		C2055	QEKJ1CM-106	E CAPACITOR	10μF,16V
		T2051	PELN0832	OSC TRANSFORMER,S6700MS	
			PELN0860	OSC TRANSFORMER,S7700MS	
		CN2052	QGB2024J1-04S	CONNECTOR,(1-4)MAIN	

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LOADING MOTOR BOARD ASSEMBLY <55>

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION
		PW2	LPA10010-01A2	LOADING MOTOR BOARD ASSY
		CN1	QGB2533K1-02	CONNECTOR

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SHUTTLE/PLAY BOARD ASSEMBLY(S6700MS) <85>

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION
		PW3	LPA10097-01A3	SHUTTLE/PLAY BOARD ASSY
		UN7091	PESW0679	SHUTTLE SWITCH
		CN7005	QGF1207F1-06	FPC CONNECTOR,(1-6)FRONT

#	⚠ REF No.	PART No.	PART NAME, DESCRIPTION

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P/S CONVERTER BOARD ASSEMBLY <87>

#	⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
	PW1	PB11062E	P/S CONVERTER BOARD ASSY	
	IC3502	TDA4650	IC	
	IC3503	TDA4665T	IC	
	IC3504	TDA2595	IC	
	IC3506	TDA8501T/N1-X	IC	
	IC3512	74HC74D	IC	
	IC3513	74HC4538D	IC	
	IC3514	74HC221D	IC	
	IC3517	BA7046F	IC	
	Q3504	2SD1819A/QRS/-X	TRANSISTOR	
		or 2SC4081/QRS/-X	TRANSISTOR	
		or 2PC4081/R/-X	TRANSISTOR	
	Q3505	2SB1218A/QR/-X	TRANSISTOR	
		or 2PA1576/R/-X	TRANSISTOR	
		or 2SA1576A/QR/-X	TRANSISTOR	
	Q3506	2SD1819A/QRS/-X	TRANSISTOR	
		or 2SC4081/QRS/-X	TRANSISTOR	
		or 2PC4081/R/-X	TRANSISTOR	
	Q3507	2SD1819A/QRS/-X	TRANSISTOR	
		or 2SC4081/QRS/-X	TRANSISTOR	
		or 2PC4081/R/-X	TRANSISTOR	
	Q3508	2SD1819A/QRS/-X	TRANSISTOR	
		or 2SC4081/QRS/-X	TRANSISTOR	
		or 2PC4081/R/-X	TRANSISTOR	
	Q3509	2SB1218A/QR/-X	TRANSISTOR	
		or 2PA1576/R/-X	TRANSISTOR	
		or 2SA1576A/QR/-X	TRANSISTOR	
	Q3510	2SD1819A/QRS/-X	TRANSISTOR	
		or 2SC4081/QRS/-X	TRANSISTOR	
		or 2PC4081/R/-X	TRANSISTOR	
	Q3511	2SD1819A/QRS/-X	TRANSISTOR	
		or 2PC4081/R/-X	TRANSISTOR	
		or 2SC4081/QRS/-X	TRANSISTOR	
	Q3512	2SD1819A/QRS/-X	TRANSISTOR	
		or 2SC4081/QRS/-X	TRANSISTOR	
		or 2PC4081/R/-X	TRANSISTOR	
	Q3513	2SB1218A/QR/-X	TRANSISTOR	
		or 2PA1576/R/-X	TRANSISTOR	
		or 2SA1576A/QR/-X	TRANSISTOR	
	Q3514	2SD1819A/QRS/-X	TRANSISTOR	
		or 2SC4081/QRS/-X	TRANSISTOR	
		or 2PC4081/R/-X	TRANSISTOR	
	Q3515	2SD1819A/QRS/-X	TRANSISTOR	
		or 2PC4081/R/-X	TRANSISTOR	
		or 2SC4081/QRS/-X	TRANSISTOR	
	Q3520	2SD1819A/QRS/-X	TRANSISTOR	
		or 2SC4081/QRS/-X	TRANSISTOR	
		or 2PC4081/R/-X	TRANSISTOR	
	Q3525	2SD1819A/QRS/-X	TRANSISTOR	
		or 2SC4081/QRS/-X	TRANSISTOR	
		or 2PC4081/R/-X	TRANSISTOR	
	Q3540	2SD1819A/QRS/-X	TRANSISTOR	
		or 2PC4081/R/-X	TRANSISTOR	
		or 2SC4081/QRS/-X	TRANSISTOR	
	Q3541	2SD1819A/QRS/-X	TRANSISTOR	
		or 2SC4081/QRS/-X	TRANSISTOR	
		or 2PC4081/R/-X	TRANSISTOR	

#	⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
	Q3542	2SB1218A/QR/-X	TRANSISTOR	
		or 2PA1576/R/-X	TRANSISTOR	
		or 2SA1576A/QRS/-X	TRANSISTOR	
	Q3543	2SD1819A/QRS/-X	TRANSISTOR	
		or 2SC4081/QRS/-X	TRANSISTOR	
		or 2PC4081/R/-X	TRANSISTOR	
	Q3544	2SD1819A/QRS/-X	TRANSISTOR	
		or 2PC4081/R/-X	TRANSISTOR	
		or 2SC4081/QRS/-X	TRANSISTOR	
	Q3545	2SB1218A/QR/-X	TRANSISTOR	
		or 2SA1576A/QRS/-X	TRANSISTOR	
		or 2PA1576/R/-X	TRANSISTOR	
	Q3546	2SD1819A/QRS/-X	TRANSISTOR	
		or 2PC4081/R/-X	TRANSISTOR	
		or 2SC4081/QRS/-X	TRANSISTOR	
	D3502	DAN202U	DIODE	
	D3504	1SS355	DIODE	
	R3528	NRSA02J-511X	MG RESISTOR	510Ω,1/10W
	R3529	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
	R3531	NRSA02J-563X	MG RESISTOR	56kΩ,1/10W
	R3532	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
	R3533	NRSA02J-122X	MG RESISTOR	1.2kΩ,1/10W
	R3534	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
	R3535	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
	R3536	NRSA02J-331X	MG RESISTOR	330Ω,1/10W
	R3537	NRSA02J-182X	MG RESISTOR	1.8kΩ,1/10W
	R3538	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R3539	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
	R3540	NRSA02J-152X	MG RESISTOR	1.5kΩ,1/10W
	R3541	NRSA02J-153X	MG RESISTOR	15kΩ,1/10W
	R3542	NRSA02J-183X	MG RESISTOR	18kΩ,1/10W
	R3543	NRSA02J-122X	MG RESISTOR	1.2kΩ,1/10W
	R3544	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
	R3545	NRSA02J-751X	MG RESISTOR	750Ω,1/10W
	R3546	NRSA02J-121X	MG RESISTOR	120Ω,1/10W
	R3547	NRSA02J-122X	MG RESISTOR	1.2kΩ,1/10W
	R3548	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R3549	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R3550	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R3551	NRSA02J-563X	MG RESISTOR	56kΩ,1/10W
	R3552	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
	R3553	NRSA02J-122X	MG RESISTOR	1.2kΩ,1/10W
	R3554	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
	R3555	NRSA02J-821X	MG RESISTOR	820Ω,1/10W
	R3556	NRSA02J-121X	MG RESISTOR	120Ω,1/10W
	R3557	NRSA02J-152X	MG RESISTOR	1.5kΩ,1/10W
	R3558	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R3559	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R3560	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R3571	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
	R3572	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R3573	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
	R3574	NRSA02J-561X	MG RESISTOR	560Ω,1/10W
	R3591	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
	R3592	NRSA02J-331X	MG RESISTOR	330Ω,1/10W
	R3593	NRSA02J-331X	MG RESISTOR	330Ω,1/10W
	R3594	NRSA02J-332X	MG RESISTOR	3.3kΩ,1/10W
	R3595	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
	R3596	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
	R3597	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
	R3598	NRSA02J-101X	MG RESISTOR	100Ω,1/10W

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		R3599	NRSA02J-122X	MG RESISTOR	1.2kΩ,1/10W
		R3600	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3601	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
		R3602	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R3604	NRSA02J-331X	MG RESISTOR	330Ω,1/10W
		R3605	NRSA02J-105X	MG RESISTOR	1MΩ,1/10W
		R3607	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R3608	NRSA02J-183X	MG RESISTOR	18kΩ,1/10W
		R3609	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
		R3610	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R3620	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3621	NRSA02J-123X	MG RESISTOR	12kΩ,1/10W
		R3622	NRSA02J-124X	MG RESISTOR	120kΩ,1/10W
		R3623	NRSA02J-104X	MG RESISTOR	100kΩ,1/10W
		R3624	NRSA02J-562X	MG RESISTOR	5.6kΩ,1/10W
		R3627	NRSA02J-562X	MG RESISTOR	5.6kΩ,1/10W
		R3628	NRSA02J-332X	MG RESISTOR	3.3kΩ,1/10W
		R3629	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3630	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3631	NRSA02J-203X	MG RESISTOR	20kΩ,1/10W
		R3632	NRSA02J-333X	MG RESISTOR	33kΩ,1/10W
		R3633	NRSA02J-391X	MG RESISTOR	390Ω,1/10W
		R3654	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R3660	NRSA02J-154X	MG RESISTOR	150kΩ,1/10W
		R3668	NRSA02J-391X	MG RESISTOR	390Ω,1/10W
		R3669	NRSA02J-122X	MG RESISTOR	1.2kΩ,1/10W
		R3671	NRSA02J-122X	MG RESISTOR	1.2kΩ,1/10W
		R3672	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3673	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
		R3674	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R3676	NRSA02J-331X	MG RESISTOR	330Ω,1/10W
		R3677	NRSA02J-331X	MG RESISTOR	330Ω,1/10W
		R3678	NRSA02J-474X	MG RESISTOR	470kΩ,1/10W
		R3679	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3681	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3682	NRSA02J-162X	MG RESISTOR	1.6kΩ,1/10W
		R3683	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3684	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3685	NRSA02J-272X	MG RESISTOR	2.7kΩ,1/10W
		R3686	NRSA02J-333X	MG RESISTOR	33kΩ,1/10W
		R3687	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3688	NRSA02J-474X	MG RESISTOR	470kΩ,1/10W
		R3689	NRSA02J-134X	MG RESISTOR	130kΩ,1/10W
		R3691	NRSA02J-123X	MG RESISTOR	12kΩ,1/10W
		R3692	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		VR3501	QVP0039-223Z	TRIM RESISTOR,FH FREE RUN ADJ	
		VR3502	QVP0039-471Z	TRIM RESISTOR,SECAM DECODER	
		VR3503	QVP0039-104Z	TRIM RESISTOR,PAL BURST ADJ	
		VR3505	QVP0039-471Z	TRIM RESISTOR,R-Y LEVEL	
		VR3506	QVP0039-471Z	TRIM RESISTOR,B-Y LEVEL	
		C3526	NDC21HJ-121X	CAPACITOR	120pF,50V
		C3527	NCB21HJ-103X	CAPACITOR	0.01μF,50V
		C3528	NCB21HJ-103X	CAPACITOR	0.01μF,50V
		C3529	NCB21HJ-103X	CAPACITOR	0.01μF,50V
		C3530	NDC21HJ-101X	CAPACITOR	100pF,50V
		C3531	NCB21HJ-103X	CAPACITOR	0.01μF,50V
		C3532	NCB21HJ-103X	CAPACITOR	0.01μF,50V
		C3533	NCB21HJ-103X	CAPACITOR	0.01μF,50V
		C3535	QEKJ1CM-476	E CAPACITOR	47μF,16V
		C3536	QEKJ1CM-106	E CAPACITOR	10μF,16V
		C3537	QEKJ1CM-106	E CAPACITOR	10μF,16V

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		C3539	QEKJ1CM-476	E CAPACITOR	47μF,16V
		C3540	NCB21CK-224X	CAPACITOR	0.22μF,16V
		C3541	NCB21HJ-103X	CAPACITOR	0.01μF,50V
		C3542	NCB21HJ-103X	CAPACITOR	0.01μF,50V
		C3543	NDC21HJ-181X	CAPACITOR	180pF,50V
		C3544	NDC21HJ-181X	CAPACITOR	180pF,50V
		C3545	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C3546	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C3547	NDC21HJ-270X	CAPACITOR	27pF,50V
		C3548	NDC21HJ-270X	CAPACITOR	27pF,50V
		C3549	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C3550	NCB21CK-474X	CAPACITOR	0.47μF,16V
		C3552	NCB21EK-223X	CAPACITOR	0.022μF,25V
		C3553	NCB21EK-223X	CAPACITOR	0.022μF,25V
		C3554	NCB21HJ-103X	CAPACITOR	0.01μF,50V
		C3555	QEKJ1CM-107	E CAPACITOR	100μF,16V
		C3556	NCB21HJ-103X	CAPACITOR	0.01μF,50V
		C3557	QEKJ1CM-476	E CAPACITOR	47μF,16V
		C3558	NCB21HJ-103X	CAPACITOR	0.01μF,50V
		C3559	QEKJ1CM-476	E CAPACITOR	47μF,16V
		C3561	QEKJ1HM-335	E CAPACITOR	3.3μF,50V
		C3564	QEKJ1EM-475	E CAPACITOR	4.7μF,25V
		C3566	NCB21EK-223X	CAPACITOR	0.022μF,25V
		C3567	NCB21CK-224X	CAPACITOR	0.22μF,16V
		C3568	NCB21CK-224X	CAPACITOR	0.22μF,16V
		C3569	NCB21HJ-103X	CAPACITOR	0.01μF,50V
		C3570	QFN31HJ-472	F CAPACITOR	0.0047μF,50V
		C3571	NCB21HK-472X	CAPACITOR	0.0047μF,50V
		C3572	NCB21HJ-103X	CAPACITOR	0.01μF,50V
		C3573	QEKJ1EM-475	E CAPACITOR	4.7μF,25V
		C3575	QEKJ1CM-476	E CAPACITOR	47μF,16V
		C3576	NCB21HJ-103X	CAPACITOR	0.01μF,50V
		C3577	NDC21HJ-561X	CAPACITOR	560pF,50V
		C3578	NCB21HJ-103X	CAPACITOR	0.01μF,50V
		C3600	QEKJ1HM-105	E CAPACITOR	1μF,50V
		C3601	QEKJ1HM-105	E CAPACITOR	1μF,50V
		C3602	NCB21CK-224X	CAPACITOR	0.22μF,16V
		C3603	NCB21HJ-103X	CAPACITOR	0.01μF,50V
		C3604	NCB21CK-224X	CAPACITOR	0.22μF,16V
		C3605	NCB21EK-223X	CAPACITOR	0.022μF,25V
		C3606	NCB21HJ-103X	CAPACITOR	0.01μF,50V
		C3607	NCB21CK-224X	CAPACITOR	0.22μF,16V
		C3608	NDC21HG-150X	CAPACITOR	15pF,50V
		C3609	NCB21EK-223X	CAPACITOR	0.022μF,25V
		C3610	QEKJ1CM-476	E CAPACITOR	47μF,16V
		C3611	QEKJ1CM-476	E CAPACITOR	47μF,16V
		C3612	NCB21HJ-103X	CAPACITOR	0.01μF,50V
		C3613	NCB21HJ-103X	CAPACITOR	0.01μF,50V
		C3614	NDC21HJ-222X	CAPACITOR	0.0022μF,50V
		C3615	NCB21HJ-103X	CAPACITOR	0.01μF,50V
		C3616	NDC21HJ-101X	CAPACITOR	100pF,50V
		C3618	NDC21HJ-2R0X	CAPACITOR	2pF,50V
		C3625	QEKJ1CM-476	E CAPACITOR	47μF,16V
		C3648	QEKJ1HM-105	E CAPACITOR	1μF,50V
		C3649	NCB21HJ-103X	CAPACITOR	0.01μF,50V
		C3650	QEKJ1CM-476	E CAPACITOR	47μF,16V
		C3652	NDC21HJ-222X	CAPACITOR	0.0022μF,50V
		C3655	NDC21HJ-222X	CAPACITOR	0.0022μF,50V
		C3656	NCB21HJ-103X	CAPACITOR	0.01μF,50V
		C3657	QEKJ1CM-476	E CAPACITOR	47μF,16V
		C3658	NDC21HJ-102X	CAPACITOR	0.001μF,50V

#	⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
	C3659	NCB21HJ-103X	CAPACITOR	0.01μF,50V
	C3660	NDC21HJ-222X	CAPACITOR	0.0022μF,50V
	C3661	NDC21HJ-101X	CAPACITOR	100pF,50V
	C3662	QEKJ1HM-105	E CAPACITOR	1μF,50V
	L3501	QQL29BJ-101Z	COIL	100μH
	L3502	QQL29BJ-101Z	COIL	100μH
	L3503	QQL29BJ-101Z	COIL	100μH
	L3504	QQL29BJ-331Z	COIL	330μH
	L3506	QQL29BJ-101Z	COIL	100μH
	L3507	QQL29BJ-101Z	COIL	100μH
	L3508	QQL29BJ-101Z	COIL	100μH
	L3513	QQR0660-001	BLOCK COIL,SECAM DECODER	
	L3516	QQL29BJ-101Z	COIL	100μH
	X3503	QAX0345-001Z	CRYSTAL RESONATOR	
	SD1	LP20275-001B	SHIELD FRAME	
	FL3501	PELN1223	EQUALIZER	
	FL3502	QQR0662-001	EQUALIZER	
	FL3503	QQR0661-001	EQUALIZER	
	FL3505	PELN1207	LOW PASS FILTER	
	FL3506	PELN1205	LC TRAP	
	OT1	PU59915-105	#500SPACER0.01,X3503	
	CN3501	QGF1208F1-04	FPC CONNECTOR,(7-10)MAIN	
	CN3502	QGF1208F1-09	FPC CONNECTOR,(1-9)S-SUB	

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SECAM BOARD ASSEMBLY <88>

#	⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
	PW1	LPA10069-01A	SECAM BOARD ASSY	
	IC301	LA7358	IC	
	Q301	2SB1218A/QR/-X	TRANSISTOR	
		or 2PA1576/R/-X	TRANSISTOR	
		or 2SA1576A/QR/-X	TRANSISTOR	
	Q302	UN511E	TRANSISTOR	
		or RN2309	TRANSISTOR	
		or DTA144WU	TRANSISTOR	
	R301	NRSA02J-273X	MG RESISTOR	27kΩ,1/10W
	R302	NRSA02J-124X	MG RESISTOR	120kΩ,1/10W
	R303	NRSA02J-273X	MG RESISTOR	27kΩ,1/10W
	R304	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
	R305	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
	R306	NRSA02J-273X	MG RESISTOR	27kΩ,1/10W
	R307	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
	R308	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
	R309	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R310	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
	R311	NRSA02J-332X	MG RESISTOR	3.3kΩ,1/10W
	R312	NRSA02J-272X	MG RESISTOR	2.7kΩ,1/10W
	R313	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
	R314	NRVA02D-243X	CMF RESISTOR	24kΩ,1/10W
	R315	NRSA02J-564X	MG RESISTOR	560kΩ,1/10W
	R316	NRSA02J-124X	MG RESISTOR	120kΩ,1/10W
	R329	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	C301	NDC21HJ-151X	CAPACITOR	150pF,50V
	C302	NCB21AK-105X	CAPACITOR	1μF,10V
	C303	NCB21HK-682X	CAPACITOR	0.0068μF,50V
	C304	NCB21HK-682X	CAPACITOR	0.0068μF,50V
	C305	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C306	NCB21AK-105X	CAPACITOR	1μF,10V
	C307	NDC21HJ-151X	CAPACITOR	150pF,50V
	C308	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C309	NCB21EK-104X	CAPACITOR	0.1μF,25V
	C310	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C311	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C312	NCB21HK-102X	CAPACITOR	0.001μF,50V
	C313	NCB21CK-474X	CAPACITOR	0.47μF,16V
	C315	NCB21AK-105X	CAPACITOR	1μF,10V
	C316	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C317	NDC21HJ-681X	CAPACITOR	680pF,50V
	C318	NCB21EK-223X	CAPACITOR	0.022μF,25V
	C319	NCB21AK-105X	CAPACITOR	1μF,10V
	C320	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C321	NDC21HG-301X	CAPACITOR	300pF,50V
	C322	NCB21CK-474X	CAPACITOR	0.47μF,16V
	L302	QQL231J-6R8Y	COIL	6.8μH
	L303	QQL231J-270Y	COIL	27μH
	OT1	PU60010	SPACER	
	CN301	QGG2509M1-05	HEADER PIN	
	CN302	QGG2509M1-06	HEADER PIN	

SECTION 4
CHARTS AND DIAGRAMS

NOTES OF SCHEMATIC DIAGRAM

Safety precautions
The Components identified by the symbol ⚠ are critical for safety. For continued safety, replace safety critical components only with manufacturer's recommended parts.

1. Units of components on the schematic diagram

Unless otherwise specified.

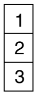
1) All resistance values are in ohm, 1/6 W, 1/8 W (refer to parts list).
   Chip resistors are 1/16 W.
   K: KΩ (1000Ω), M: MΩ (1000KΩ)
2) All capacitance values are in µF, (P: PF).
3) All inductance values are in µH, (m: mH).
4) All diodes are 1SS133, MA165 or 1N4148M (refer to parts list).

2. Indications of control voltage

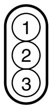
AUX : Active at high

$\overline{\text{AUX}}$ or AUX(L) : Active at low

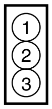
3. Interpreting Connector indications



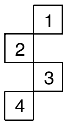
Removable connector



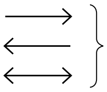
Wire soldered directly on board



Non-removable Board connector



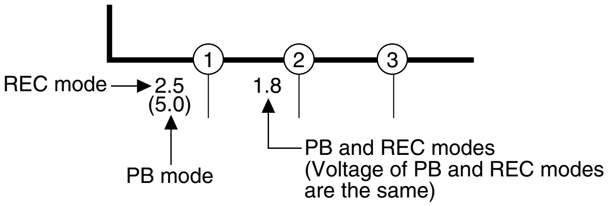
Board to Board



Connected pattern on board
The arrows indicate signal path

4. Voltage measurement

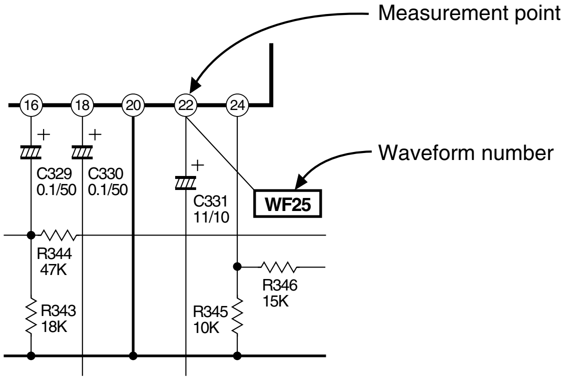
1) Video circuits
   REC : Colour bar signal in SP mode, normal VHS mode
   PB : Alignment tape, colour bar SP mode, normal VHS mode
   — : Unmeasurable or unnecessary to measure
2) Audio circuits
   REC : 1KHz, –8 dBs sine wave signal in SP mode, Normal VHS mode
   PB : REC then playback it
3) Movie Camera circuits
   Measured using a correctly illuminated gray scale or colour bar test charts in the E-E mode
4) Indication on schematic diagram
   Voltage Indications for REC and PB mode on the schematic diagram are as shown below.


1
2
3
REC mode
2.5
(5.0)
1.8
PB mode
PB and REC modes
(Voltage of PB and REC modes are the same)

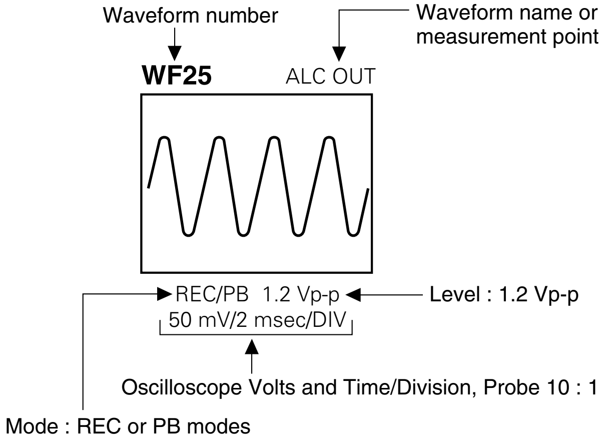
Note: If the voltages are not indicated on the schematic diagram, refer to the voltage charts.

5. Waveform measurement

1) Video circuits
   REC : Colour bar signal in SP mode, normal VHS mode
   PB : Alignment tape, colour bar SP mode, normal VHS mode
2) Audio circuits
   REC : 1KHz, –8 dBs sine wave signal in SP mode, normal VHS mode
   PB : REC then playback it
3) Movie Camera circuits
   Measured using a correctly illuminated gray scale or colour bar test chatrs in the E-E mode
4) Indication on schematic diagram
   Waveform indications on the schematic diagram are as shown below.


Measurement point
16
18
20
22
24
Waveform number
C329
0.1/50
C330
0.1/50
C331
11/10
WF25
R344
47K
R346
15K
R343
18K
R345
10K

5) Waveform indications


Waveform number
Waveform name or measurement point
WF25
ALC OUT
REC/PB 1.2 Vp-p
50 mV/2 msec/DIV
Level : 1.2 Vp-p
Oscilloscope Volts and Time/Division, Probe 10 : 1
Mode : REC or PB modes

6. Signal path Symbols

The arrows indicate the signal path as follows.

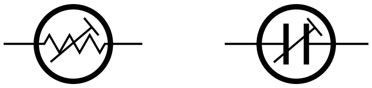
⇨	Playback signal path
▭▶	Playback and recording signal path
➡	Recording signal path (including E-E signal path)
⇨▷	Capstan servo path
➡▶	Drum servo path

(Example)

⇨ R-Y	Playback R-Y signal path
➡ Y	Recording Y signal path

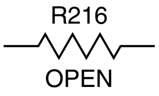
7. Indication of the parts for adjustments

The parts for the adjustments are surrounded with the circle as shown below.



8. Indication of the parts not mounted on the circuit board

"OPEN" is indicated by the parts not mounted on the circuit board.



CIRCUIT BOARD NOTES

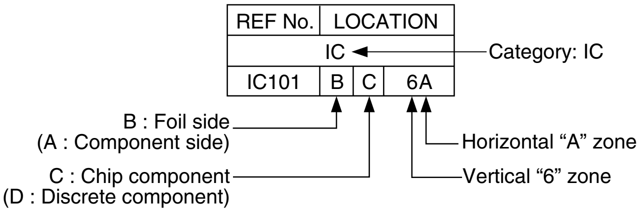
1. Foil and Component sides

1) Foil side (B side) :
Parts on the foil side seen from foil face (pattern face) are indicated.

2) Component side (A side) :
Parts on the component side seen from component face (parts face) indicated.

2. Parts location guides

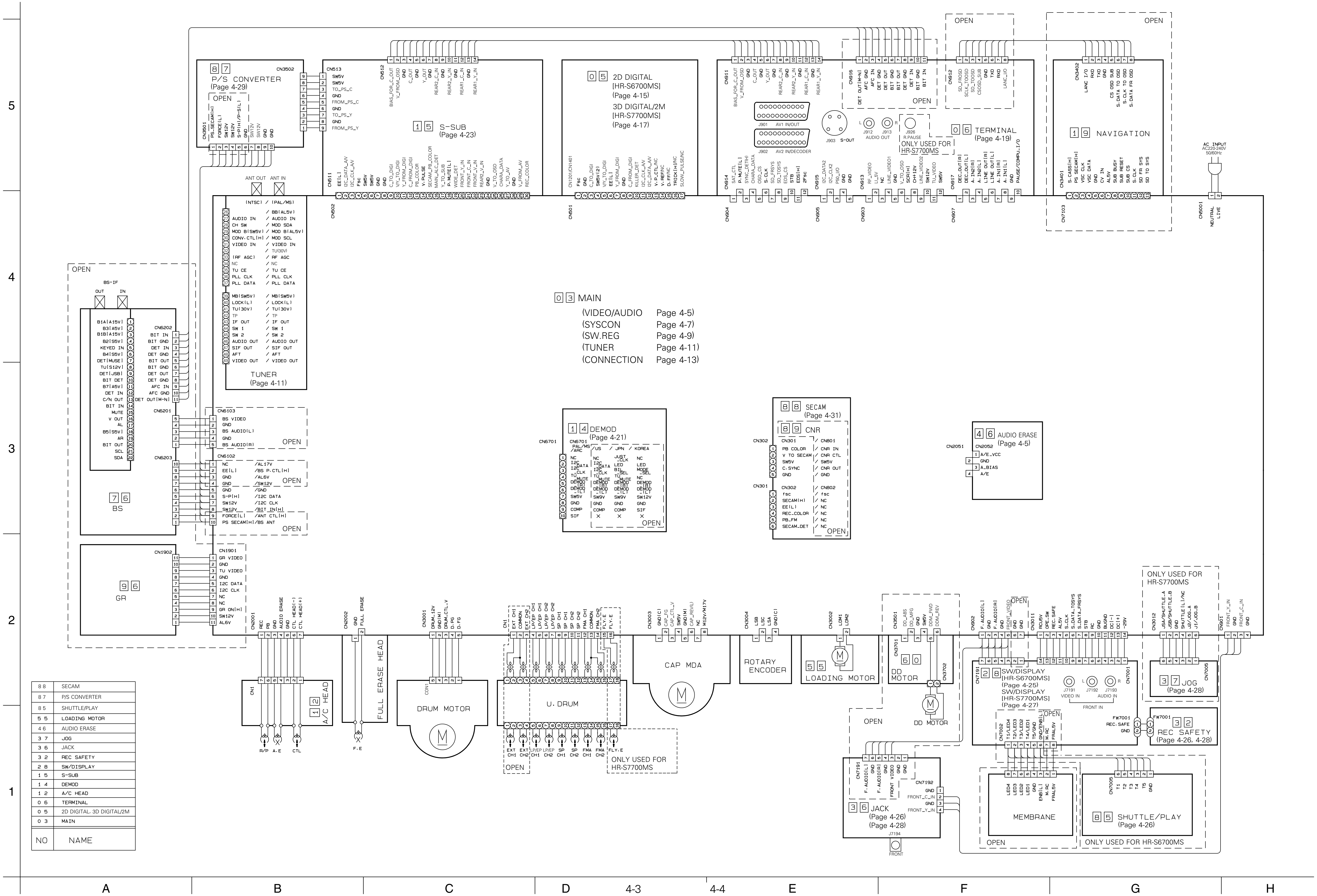
Parts location are indicated by guide scale on the circuit board.


REF No.
LOCATION
IC
Category: IC
IC101
B
C
6A
B : Foil side
(A : Component side)
C : Chip component
(D : Discrete component)
Horizontal "A" zone
Vertical "6" zone

Note:

For general information in service manual, please refer to the Service Manual of GENERAL INFORMATION Edition 4 No. 82054D (January 1994).

4.1 BOARD INTERCONNECTIONS

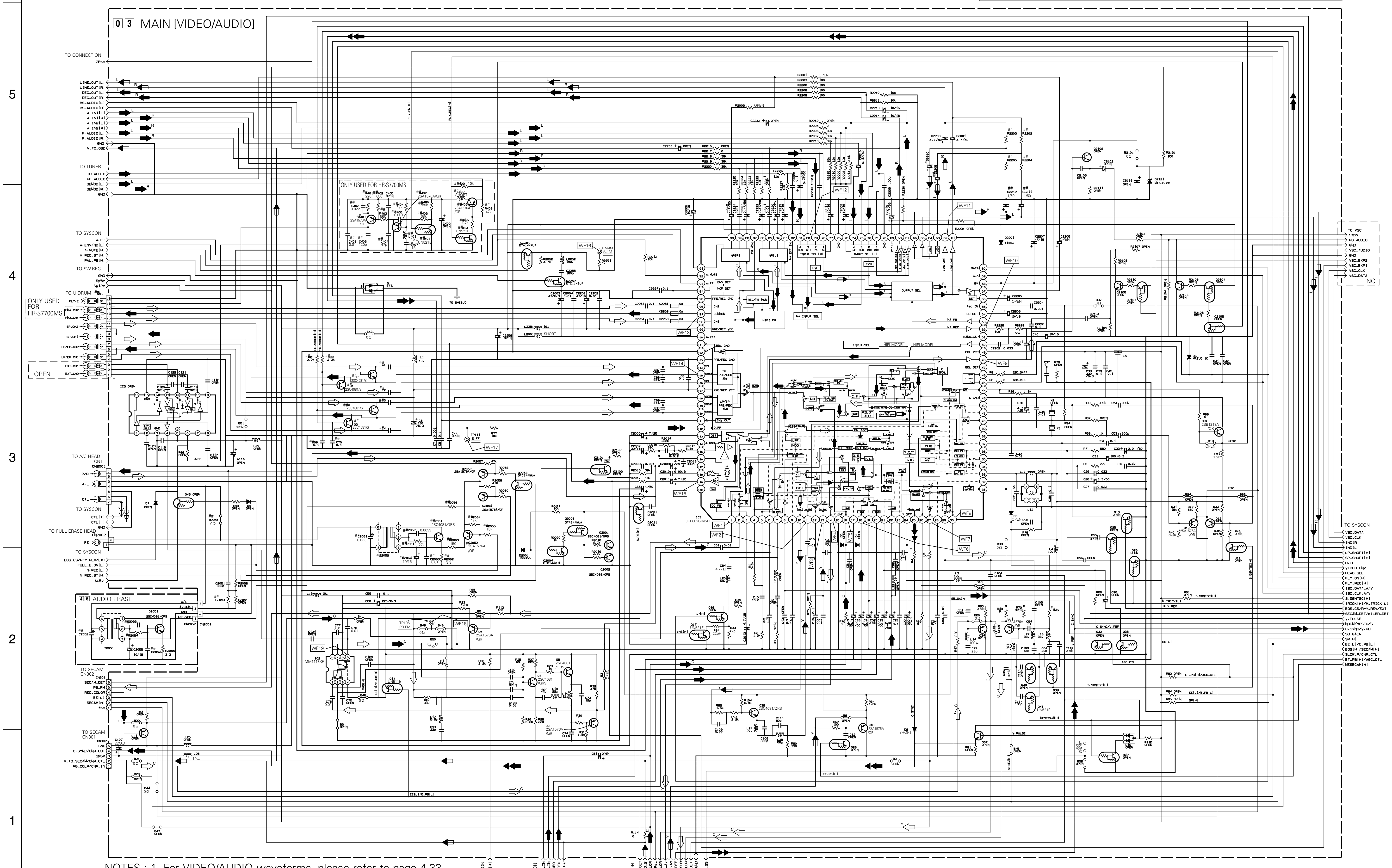


87 P/S CONVERTER (Page 4-29)
CN3502
CN3501
OPEN
CN513
CN512
15 S-SUB (Page 4-23)
CN511
05 2D DIGITAL [HR-S6700MS] (Page 4-15)
3D DIGITAL/2M [HR-S7700MS] (Page 4-17)
CN1201/CN1401
CN911
CN916
CN912
J901 AV1 IN/OUT
J902 AV2 IN/DECODER
J903 S-OUT
J912 J913 AUDIO OUT
J926 R.PAUSE
ONLY USED FOR HR-S7700MS
06 TERMINAL (Page 4-19)
CN914
CN915
CN913
CN917
19 NAVIGATION
CN3402
CN3401
AC INPUT AC220-240V 50/60Hz
CN5001
NEUTRAL
LIVE
ANT OUT
ANT IN
CN502
CN501
CN904
CN905
CN903
CN907
CN7103
TUNER (Page 4-11)
03 MAIN
(VIDEO/AUDIO Page 4-5)
(SYSCON Page 4-7)
(SW.REG Page 4-9)
(TUNER Page 4-11)
(CONNECTION Page 4-13)
BS-IF
OUT
IN
CN6202
CN6201
CN6203
76 BS
CN6103
CN6102
BS VIDEO
BS AUDIO(L)
BS AUDIO(R)
96 GR
CN1902
CN1901
14 DEMOD (Page 4-21)
CN6701
88 SECAM (Page 4-31)
89 CNR
CN302
CN301
CN801
CN802
46 AUDIO ERASE (Page 4-5)
CN2051
CN2052
A/E_VCC
GND
A_BIAS
A/E
CN2001
CN2002
CN3001
CN1
CN3003
CN3004
CN3002
CN3501
CN502
CN3011
CN3012
CN901
ONLY USED FOR HR-S7700MS
12 A/C HEAD
R/P
A.E
CTL
FULL ERASE HEAD
F.E
DRUM MOTOR
CON1
U. DRUM
EXT CH1
EXT CH2
LP/EP CH1
LP/EP CH2
SP CH1
SP CH2
FMA CH1
FMA CH2
FLY.E
OPEN
ONLY USED FOR HR-S7700MS
CAP MDA
ROTARY ENCODER
55 LOADING MOTOR
60 DD MOTOR
CN3701
CN3702
DD MOTOR
28 SW/DISPLAY [HR-S6700MS] (Page 4-25)
SW/DISPLAY [HR-S7700MS] (Page 4-27)
CN7191
CN7001
J7191 VIDEO IN
J7192
J7193 AUDIO IN
FRONT IN
FW7001
REC. SAFE
37 JOG (Page 4-28)
CN7005
32 REC SAFETY (Page 4-26, 4-28)
36 JACK (Page 4-26) (Page 4-28)
CN7192
J7194
FRONT
CN7002
MEMBRANE
85 SHUTTLE/PLAY (Page 4-26)
CN7006
ONLY USED FOR HR-S6700MS
A
B
C
D
E
F
G
H
1
2
3
4
5

88	SECAM
87	P/S CONVERTER
85	SHUTTLE/PLAY
55	LOADING MOTOR
46	AUDIO ERASE
37	JOG
36	JACK
32	REC SAFETY
28	SW/DISPLAY
15	S-SUB
14	DEMOD
12	A/C HEAD
06	TERMINAL
05	2D DIGITAL, 3D DIGITAL/2M
03	MAIN
NO	NAME

4.2 VIDEO/AUDIO AND AUDIO ERASE SCHEMATIC DIAGRAMS

NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.

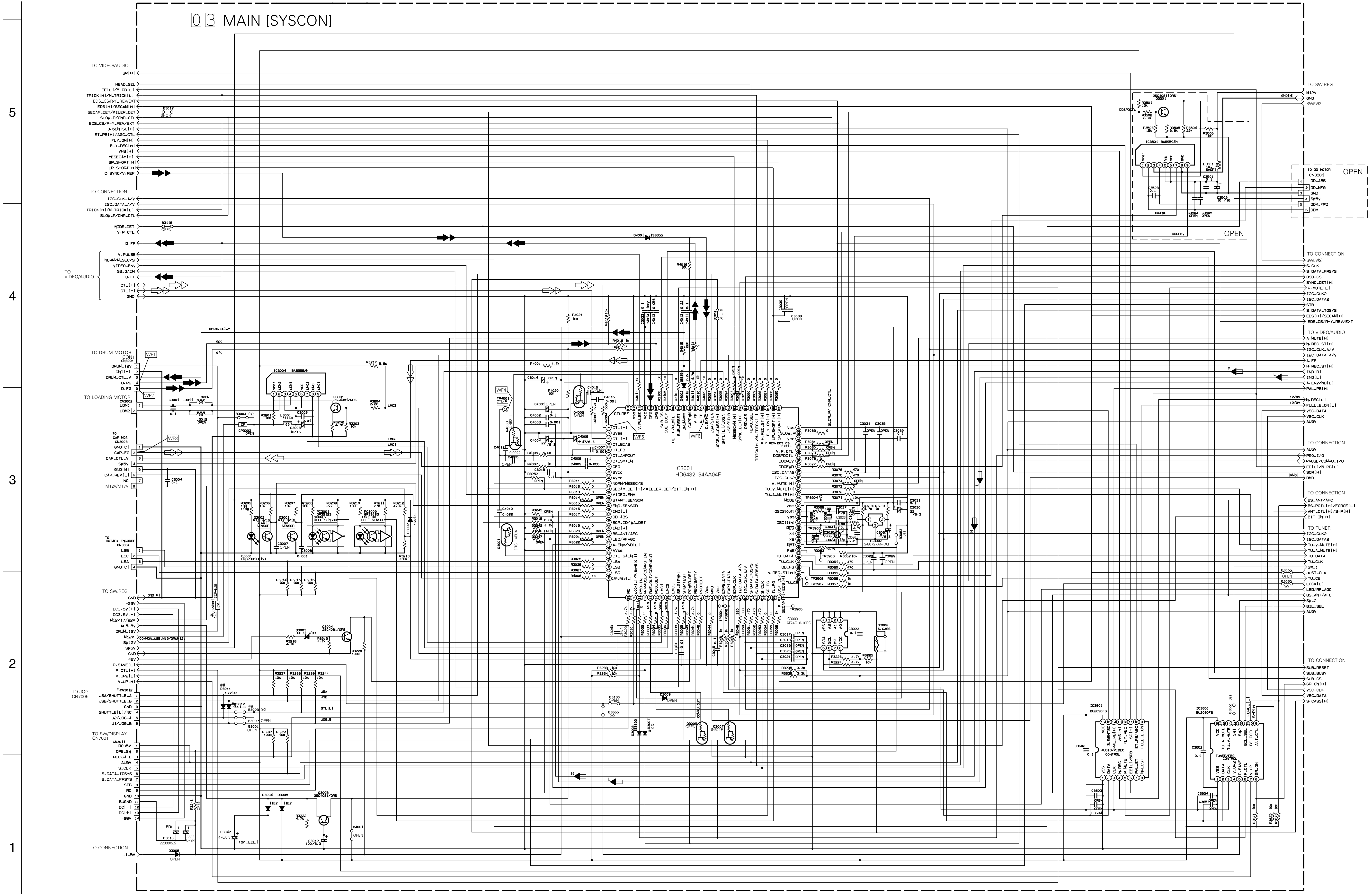

03 MAIN [VIDEO/AUDIO]
46 AUDIO ERASE
ONLY USED FOR HR-S7700MS
TO CONNECTION
TO TUNER
TO SYSCON
TO SW.REG
TO U.DRUM
TO A/C HEAD
TO FULL ERASE HEAD
TO SECAM
TO VSC
IC1 JCP8020-M50
IC2 MM1113XF
IC3 OPEN
5
4
3
2
1
A
B
C
D
E
F
G
H

NOTES : 1. For VIDEO/AUDIO waveforms, please refer to page 4-33.
2. Comparison chart of models & marks (#).

MODEL	REF NO.	CN1	Q1-Q4	C1-C4	C69,C70	R21,R22	R46	Q401-Q405	C401-C404 C406,C407	R401-R409 L401,L402	R2053	R2054	C2052	C2053	C2054	B2051	T2052 Q2061,Q2062	C2061-C2064 R2061-R2065	R2056	C2209 C2210	C2211 C2212	R2202 R2203	R2204 R2205
MODEL	HR-S6700MS	PIN4-14	USED	0.01 μF	USED	USED	560Ω	NOT USED	NOT USED	NOT USED	6.8kΩ	12kΩ	0.082 μF	0.0047 μF	0.022 μF	USED	NOT USED	NOT USED	47Ω	10 μF/16V	NOT USED	3.3kΩ	0Ω
	HR-S7700MS	PIN4-16	NOT USED	0.1 μF	NOT USED	NOT USED	270Ω	USED	USED	USED	4.7kΩ	15kΩ	0.033 μF	0.0033 μF	0.01 μF	NOT USED	USED	USED	100Ω	0.1 μF/50V	USED	2.2kΩ	1kΩ

4.3 SYSTEM CONTROL SCHEMATIC DIAGRAM

NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Part List.

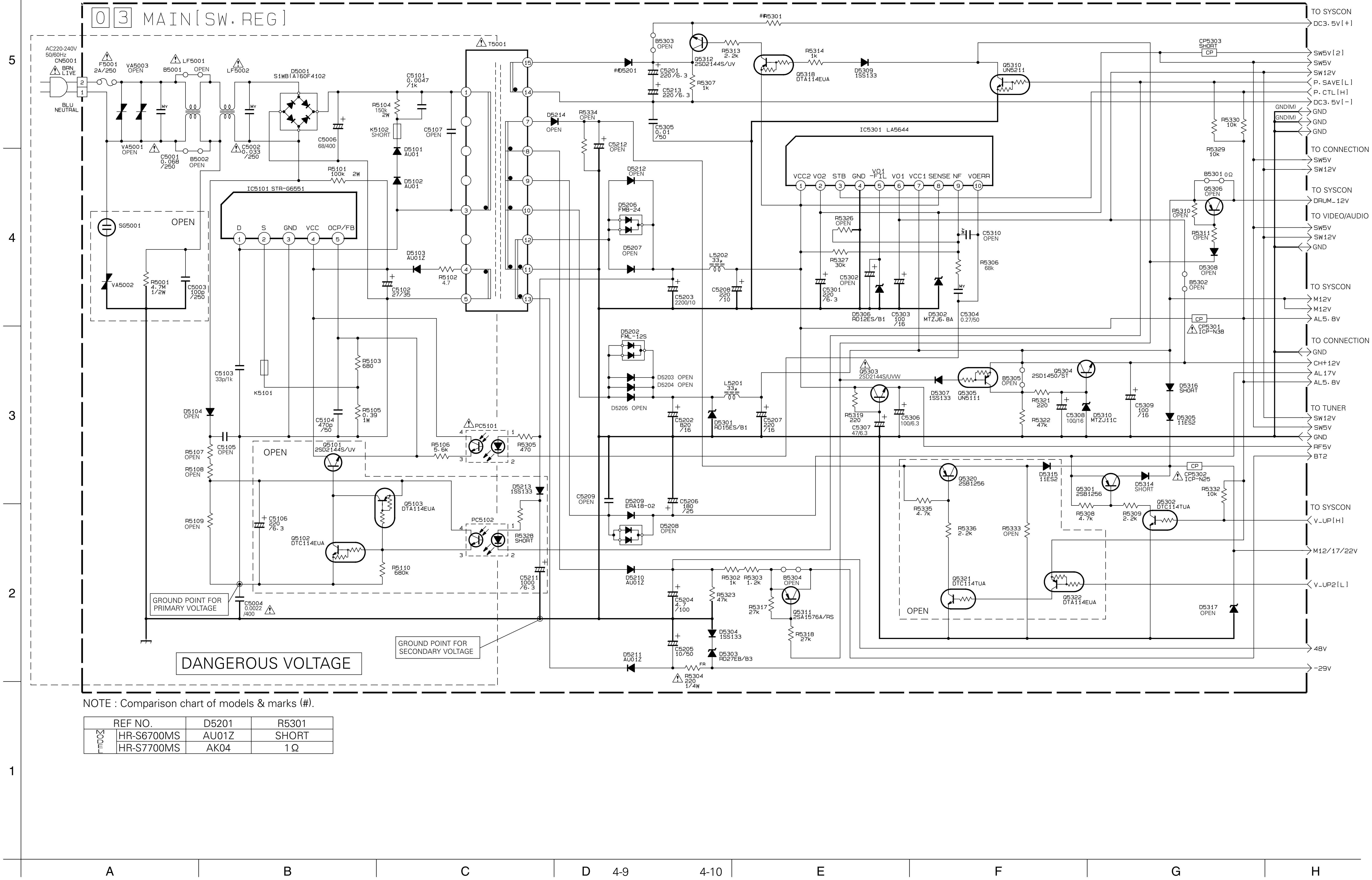

03 MAIN [SYSCON]
IC3001 HD6432194AA04F
IC3004 BA6956AN
IC3501 BA6959AN
IC3002 S-80727AN-DQ
IC3003 AT24C16-10PC
IC3601 BU2090FS
IC3651 BU2090FS
TO VIDEO/AUDIO
TO CONNECTION
TO DRUM MOTOR CN3001
TO LOADING MOTOR CN3002
TO CAP MDA CN3003
TO ROTARY ENCODER CN3004
TO SW.REG
TO JOG CN7005
TO SW/DISPLAY CN7001
TO DD MOTOR CN3501
TO TUNER
OPEN
5
4
3
2
1

NOTES : 1. For SYSCON waveforms, please refer to page 4-33.
2. Comparison chart of models & marks (#).

REF NO.		CN3012	D3007 D3011,D3012	B3003
MODEL	HR-S6700MS	NOT USED	NOT USED	NOT USED
	HR-S7700MS	USED	USED	USED

4.4 SWITCHING REGULATOR SCHEMATIC DIAGRAM

NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.

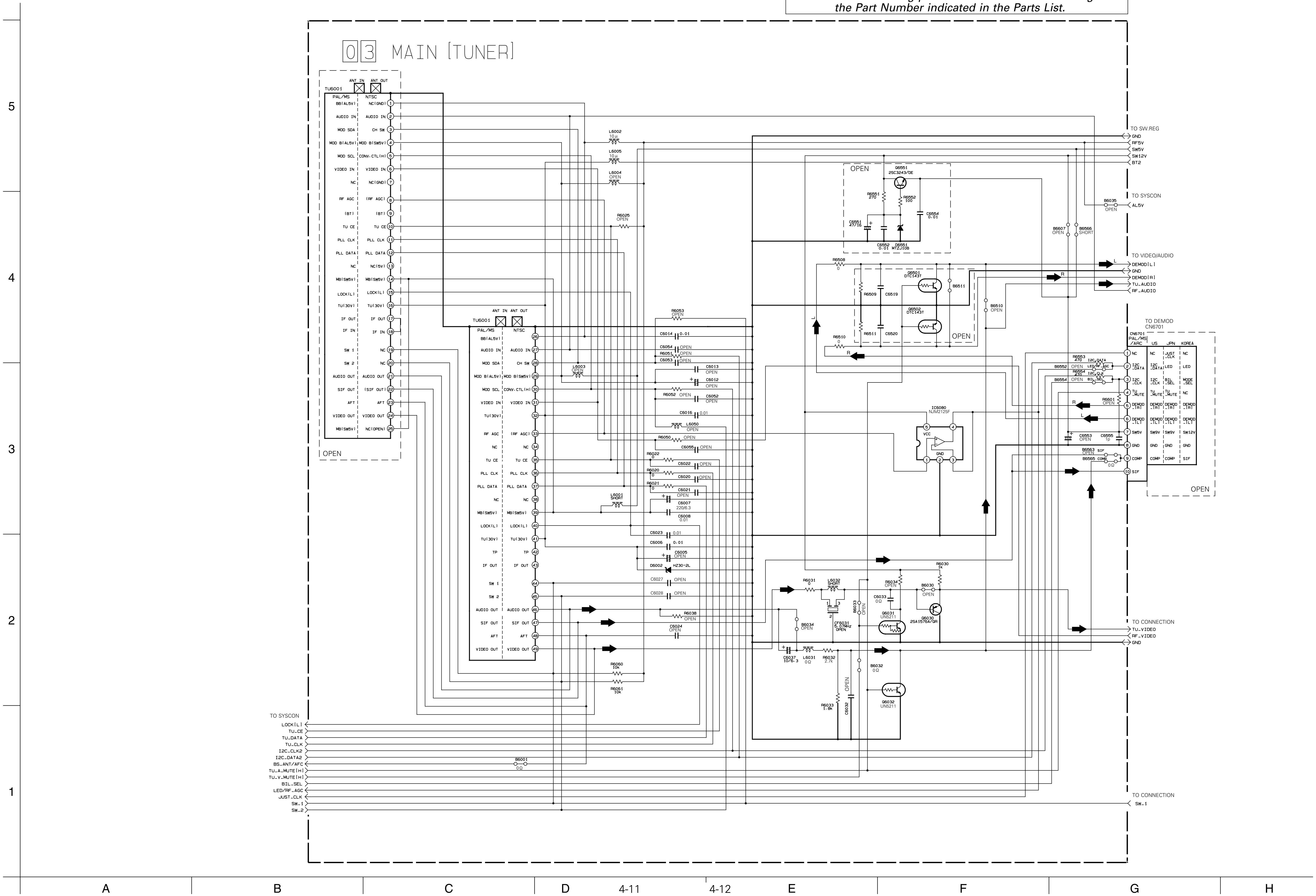

03 MAIN[SW.REG]
AC220-240V 50/60Hz
CN5001
BRN LIVE
BLU NEUTRAL
F5001 2A/250
VA5003 OPEN
B5001
LF5001
OPEN
LF5002
D5001 S1WB(A)60F4102
VA5001 OPEN
C5001 0.068 /250
B5002 OPEN
C5002 0.033 /250
C5006 68/400
R5104 150k 2W
K5102 SHORT
C5101 0.0047 /1k
C5107 OPEN
D5101 AU01
D5102 AU01
R5101 100k 2W
T5001
IC5101 STR-G6551
D S GND VCC OCP/FB
SG5001
OPEN
VA5002
R5001 4.7M 1/2W
C5003 100p /250
D5103 AU01Z
R5102 4.7
C5102 27/35
C5103 33p/1k
K5101
R5103 680
R5105 0.39 1W
C5104 470p /50
D5104 OPEN
C5105 OPEN
R5107 OPEN
R5108 OPEN
R5109 OPEN
Q5101 2SD2144S/UV
OPEN
R5106 5.6k
PC5101
R5305 470
C5106 220 /6.3
Q5103 DTA114EUA
Q5102 DTC114EUA
PC5102
R5328 SHORT
R5110 680k
D5213 1SS133
C5211 1000 /6.3
GROUND POINT FOR PRIMARY VOLTAGE
C5004 0.0022 /400
GROUND POINT FOR SECONDARY VOLTAGE
DANGEROUS VOLTAGE
#D5201
B5303 OPEN
Q5312 2SD2144S/UV
C5201 220/6.3
C5213 220/6.3
R5313 2.2k
R5307 1k
C5305 0.01 /50
#R5301
Q5318 DTA114EUA
R5314 1k
D5309 1SS133
Q5310 UN5211
D5214 OPEN
R5334 OPEN
C5212 OPEN
D5212 OPEN
D5206 FMB-24
D5207 OPEN
C5203 2200/10
L5202 33μ
C5208 220 /10
IC5301 LA5644
VCC2 VO2 STB GND VO1 -FIL VO1 VCC1 SENSE NF VOERR
R5326 OPEN
R5327 30k
C5302 OPEN
C5301 220 /6.3
D5306 RD12ES/B1
C5303 100 /16
D5302 MTZJ6.8A
C5304 0.27/50
C5310 OPEN
R5306 68k
D5202 FML-12S
D5203 OPEN
D5204 OPEN
D5205 OPEN
L5201 33μ
C5202 820 /16
D5301 RD15ES/B1
C5207 220 /16
C5209 OPEN
D5209 ERA18-02
C5206 180 /25
D5208 OPEN
D5210 AU01Z
C5204 4.7 /100
R5302 1k
R5303 1.2k
B5304 OPEN
R5323 47k
R5317 27k
Q5311 2SA1576A/RS
R5318 27k
D5304 1SS133
C5205 10/50
D5303 RD27EB/B3
D5211 AU01Z
R5304 220 1/4W
FR
Q5303 2SD2144S/UVW
R5319 220
C5307 47/6.3
C5306 100/6.3
D5307 1SS133
Q5305 UN5111
B5305 OPEN
Q5304 2SD1450/ST
R5321 220
R5322 47k
C5308 100/16
D5310 MTZJ11C
C5309 100 /16
D5316 SHORT
D5305 11ES2
CP5303 SHORT
CP
R5330 10k
R5329 10k
B5301 0Ω
Q5306 OPEN
R5310 OPEN
R5311 OPEN
D5308 OPEN
B5302 OPEN
CP5301 ICP-N38
Q5320 2SB1256
R5335 4.7k
R5336 2.2k
R5333 OPEN
D5315 11ES2
Q5301 2SB1256
D5314 SHORT
CP5302 ICP-N25
R5332 10k
R5308 4.7k
R5309 2.2k
Q5302 DTC114TUA
Q5321 DTC114TUA
Q5322 DTA114EUA
OPEN
D5317 OPEN
GND(M)
TO SYSCON
DC3.5V[+]
SW5V[2]
SW5V
SW12V
P.SAVE[L]
P.CTL[H]
DC3.5V[-]
GND
GND
GND
TO CONNECTION
SW5V
SW12V
TO SYSCON
DRUM_12V
TO VIDEO/AUDIO
SW5V
SW12V
GND
TO SYSCON
M12V
M12V
AL5.8V
TO CONNECTION
GND
CH+12V
AL17V
AL5.8V
TO TUNER
SW12V
SW5V
GND
RF5V
BT2
TO SYSCON
V_UP[H]
M12/17/22V
V_UP2[L]
48V
-29V
5
4
3
2
1
A
B
C
D
E
F
G
H

NOTE : Comparison chart of models & marks (#).

REF NO.		D5201	R5301
MODEL	HR-S6700MS	AU01Z	SHORT
	HR-S7700MS	AK04	1 Ω

4.5 TUNER SCHEMATIC DIAGRAM

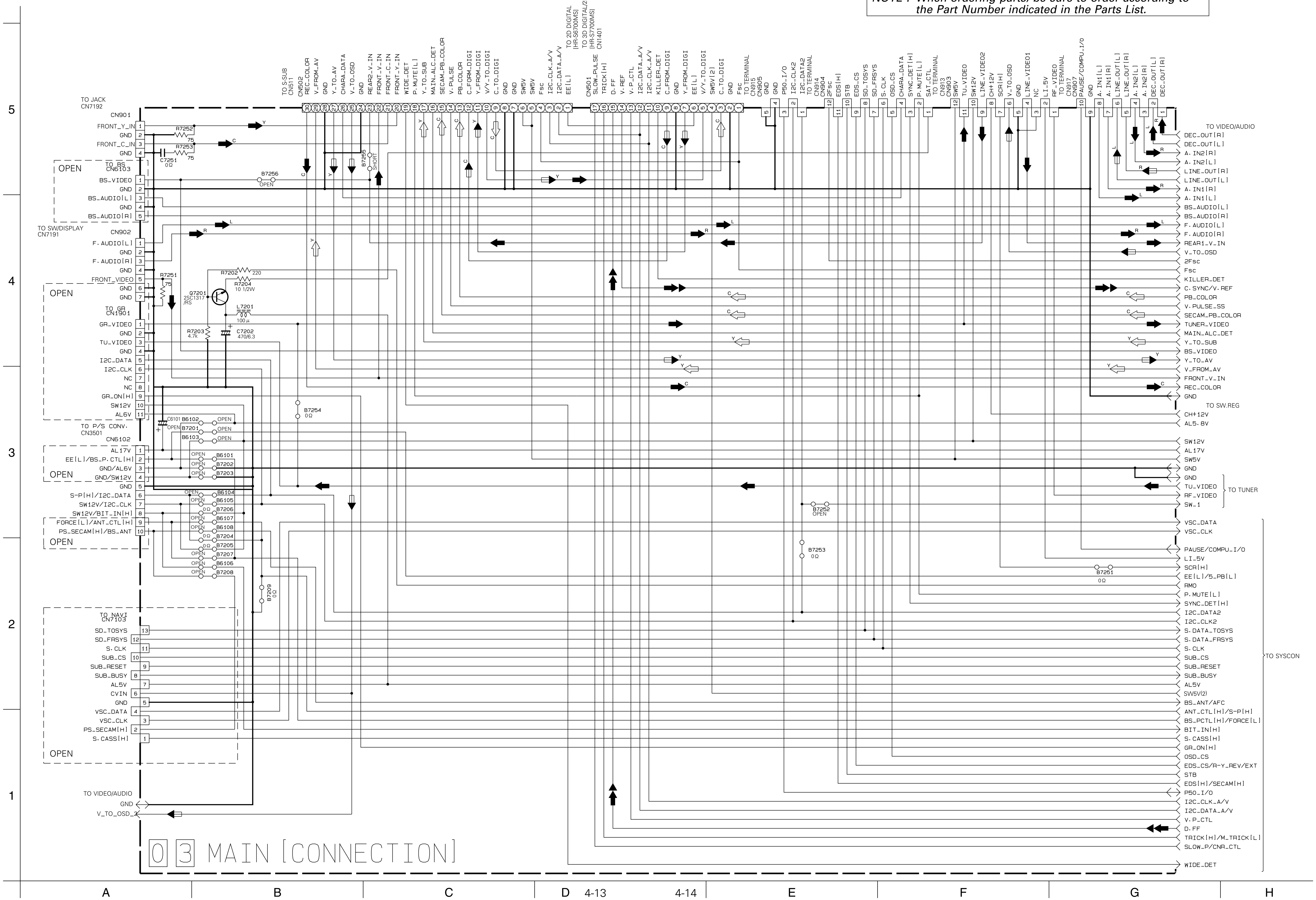
NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.



03 MAIN [TUNER]
TU6001
ANT IN
ANT OUT
PAL/MS
NTSC
BB(AL5V)
NC(GND)
AUDIO IN
MOD SDA
CH SW
MOD B(AL5V)
MOD B(SW5V)
MOD SCL
CONV.CTL(H)
VIDEO IN
NC
NC(GND)
RF AGC
(RF AGC)
(BT)
TU CE
PLL CLK
PLL DATA
NC(5V)
MB(SW5V)
LOCK(L)
TU(30V)
IF OUT
IF IN
SW 1
SW 2
AUDIO OUT
SIF OUT
(SIF OUT)
AFT
VIDEO OUT
MB(SW5V)
NC(OPEN)
OPEN
TP
L6002 10μ
L6005 10μ
L6004 OPEN
R6025 OPEN
L6003 OPEN
R6053 OPEN
C6014 0.01
C6054 OPEN
R6051 OPEN
C6053 OPEN
C6013 OPEN
C6012 OPEN
R6052 OPEN
C6052 OPEN
C6016 0.01
L6050 OPEN
R6050 OPEN
C6056 OPEN
R6022 0
C6022 OPEN
R6020 0
C6020 OPEN
R6021 0
C6021 OPEN
L6001 SHORT
C6007 220/6.3
C6008 0.01
C6023 0.01
C6006 0.01
C6005 OPEN
D6002 HZ30-2L
C6027 OPEN
C6028 OPEN
R6038 OPEN
C6024 OPEN
R6060 10k
R6061 10k
B6001 0Ω
TO SYSCON
LOCK(L)
TU_CE
TU_DATA
TU_CLK
I2C_CLK2
I2C_DATA2
BS_ANT/AFC
TU_A_MUTE(H)
TU_V_MUTE(H)
BIL_SEL
LED/RF_AGC
JUST_CLK
SW_1
SW_2
OPEN
Q6551 2SC3243/DE
R6551 270
R6552 100
C6554 0.01
C6551 47/16
C6552 0.01
D6551 MTZJ10B
TO SW.REG
GND
RF5V
SW5V
SW12V
BT2
TO SYSCON
B6035 OPEN
AL5V
B6607 OPEN
B6566 SHORT
TO VIDEO/AUDIO
DEMOD(L)
GND
DEMOD(R)
TU_AUDIO
RF_AUDIO
L
R
R6508 0
Q6501 DTC143T
B6511
R6509
C6519
Q6502 DTC143T
R6511
C6520
B6510 OPEN
R6510 0
OPEN
IC6080 NJM2125F
VCC
GND
TO DEMOD CN6701
CN6701 PAL/MS /ARC
US
JPN
KOREA
NC
I2C_DATA
I2C_CLK
TU_MUTE
DEMOD_(R)
DEMOD_(L)
SW5V
GND
COMP
SIF
JUST_CLK
LED
BIL_SEL
MODE_SEL
SW9V
SW12V
R6553 470
I2C_DATA
B6552 OPEN
LED/RF_AGC
R6554 470
I2C_CLK
B6554 OPEN
BIL_SEL
R6601 OPEN
C6553 OPEN
C6555 1p
B6563 OPEN
B6565
0Ω
OPEN
R6031 0
L6032 SHORT
CF6031 5.07MHz OPEN
B6033 OPEN
B6034 OPEN
C6033 0Ω
R6034 OPEN
B6030 OPEN
R6030 1k
Q6031 UN5211
Q6030 2SA1576A/QR
C6037 10/6.3
L6031 0Ω
R6032 2.7k
B6032 0Ω
R6033 1.8k
C6032 OPEN
Q6032 UN5211
TO CONNECTION
TU_VIDEO
RF_VIDEO
GND
TO CONNECTION
SW_1
1
2
3
4
5
A
B
C
D
E
F
G
H

4.6 CONNECTION SCHEMATIC DIAGRAM

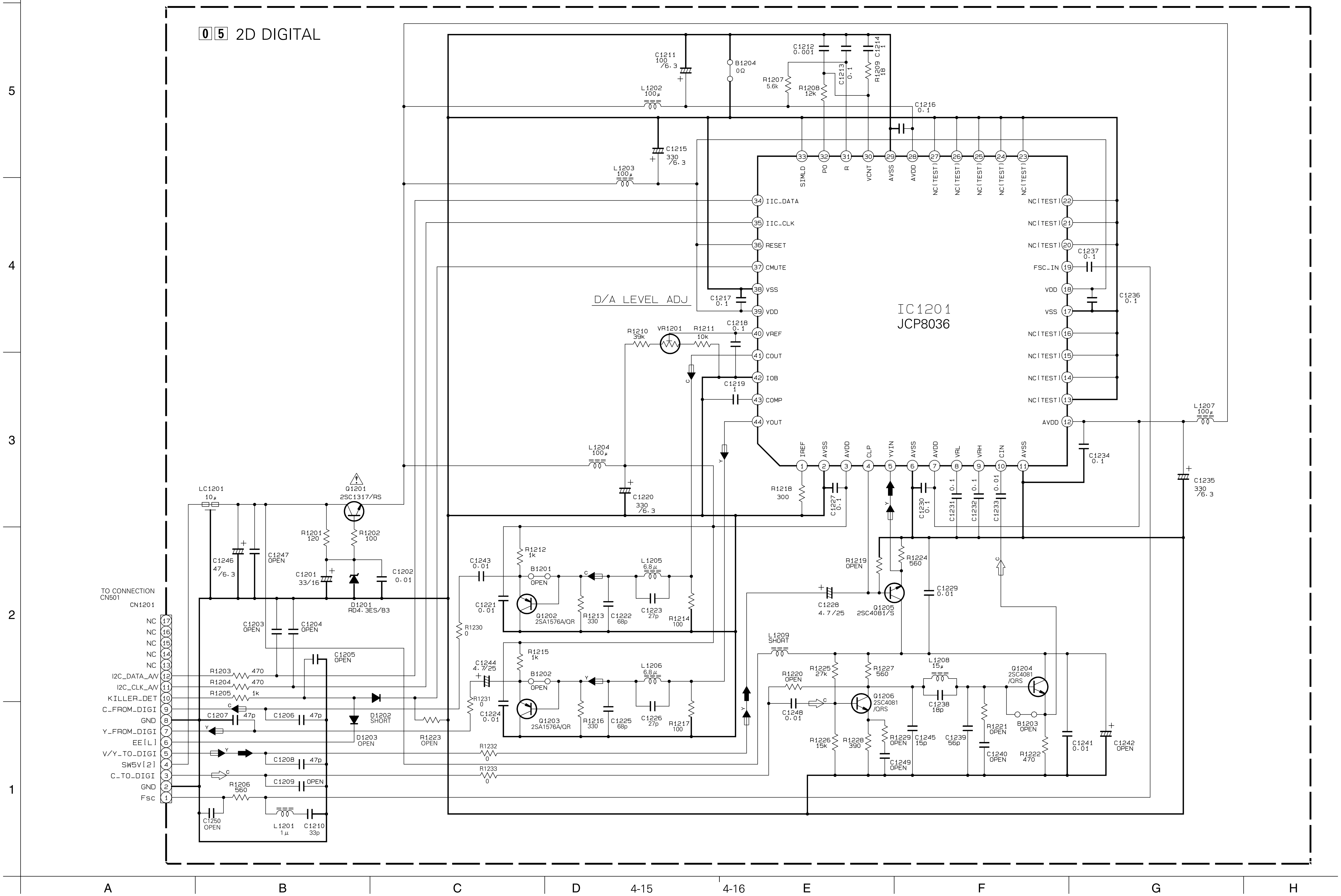
NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.



TO JACK
CN7192
CN901
FRONT_Y_IN
GND
FRONT_C_IN
GND
R7252 75
R7253 75
C7251 0Ω
OPEN
TO BS
CN6103
BS_VIDEO
GND
BS_AUDIO[L]
GND
BS_AUDIO[R]
TO SW/DISPLAY
CN7191
CN902
F.AUDIO[L]
GND
F.AUDIO[R]
GND
FRONT_VIDEO
GND
GND
R7251 75
Q7201 2SC1317 /RS
R7202 220
R7204 10 1/2W
L7201 100µ
R7203 4.7k
C7202 470/6.3
TO GR
CN1901
GR_VIDEO
GND
TU_VIDEO
GND
I2C_DATA
I2C_CLK
NC
NC
GR_ON[H]
SW12V
AL6V
TO P/S CONV.
CN3501
CN6102
AL17V
EE[L]/BS_P.CTL[H]
GND/AL6V
GND/SW12V
GND
S-P[H]/I2C_DATA
SW12V/I2C_CLK
SW12V/BIT_IN[H]
FORCE[L]/ANT_CTL[H]
PS_SECAM[H]/BS_ANT
C6101 OPEN
B6102 OPEN
B7201 OPEN
B6103 OPEN
B6101 OPEN
B7202 OPEN
B7203 OPEN
B6104 OPEN
B6105 OPEN
B7206 0Ω
B6107 OPEN
B6108 OPEN
B7204 0Ω
B7205 0Ω
B7207 OPEN
B6106 OPEN
B7208 OPEN
B7209 0Ω
B7256 OPEN
B7255 SHORT
B7254 0Ω
TO NAVI
CN7103
SD_TOSYS 13
SD_FRSYS 12
S.CLK 11
SUB_CS 10
SUB_RESET 9
SUB_BUSY 8
AL5V 7
CVIN 6
GND 5
VSC_DATA 4
VSC_CLK 3
PS_SECAM[H] 2
S.CASS[H] 1
TO VIDEO/AUDIO
GND
V_TO_OSD_2
03 MAIN [CONNECTION]
TO S-SUB
CN511
CN502
REC_COLOR
V_FROM_AV
GND
Y_TO_AV
CHARA_DATA
V_TO_OSD
GND
REAR2_V_IN
FRONT_V_IN
FRONT_C_IN
FRONT_Y_IN
WIDE_DET
P.MUTE[L]
Y_TO_SUB
MAIN_ALC_DET
SECAM_PB_COLOR
V.PULSE
PB_COLOR
C_FORM_DIGI
Y_FROM_DIGI
V/Y_TO_DIGI
C_TO_DIGI
GND
GND
SW5V
SW5V
Fsc
I2C_CLK_A/V
I2C_DATA_A/V
EE[L]
TO 2D DIGITAL
(HR-S6700MS)
TO 3D DIGITAL/2M
(HR-S7700MS)
CN1401
CN501
SLOW_PULSE
TRICK[H]
D.FF
V.REF
V.P_CTL
I2C_DATA_A/V
I2C_CLK_A/V
KILLER_DET
C_FROM_DIGI
GND
Y_FROM_DIGI
EE[L]
V/Y_TO_DIGI
SW5V(2)
C_TO_DIGI
GND
Fsc
TO TERMINAL
CN915
CN905
GND
GND
P50_I/O
I2C_CLK2
I2C_DATA2
TO TERMINAL
CN914
CN904
2Fsc
EDS[H]
STB
EDS_CS
SD_TOSYS
SD_FRSYS
S.CLK
OSD_CS
CHARA_DATA
SYNC_DET[H]
P.MUTE[L]
SAT_CTL
TO TERMINAL
CN913
CN903
SW5V
TU_VIDEO
SW12V
LINE_VIDEO2
CH+12V
SCR[H]
V_TO_OSD
GND
LINE_VIDEO1
NC
LI_5V
RF_VIDEO
TO TERMINAL
CN917
CN907
PAUSE/COMPU_I/O
GND
A.IN1[L]
A.IN1[R]
LINE_OUT[L]
LINE_OUT[R]
A.IN2[L]
A.IN2[R]
DEC_OUT[L]
DEC_OUT[R]
B7252 OPEN
B7253 0Ω
B7251 0Ω
TO VIDEO/AUDIO
DEC_OUT[R]
DEC_OUT[L]
A.IN2[R]
A.IN2[L]
LINE_OUT[R]
LINE_OUT[L]
A.IN1[R]
A.IN1[L]
BS_AUDIO[L]
BS_AUDIO[R]
F.AUDIO[L]
F.AUDIO[R]
REAR1_V_IN
V_TO_OSD
2Fsc
Fsc
KILLER_DET
C.SYNC/V.REF
PB_COLOR
V.PULSE_SS
SECAM_PB_COLOR
TUNER_VIDEO
MAIN_ALC_DET
Y_TO_SUB
BS_VIDEO
Y_TO_AV
V_FROM_AV
FRONT_V_IN
REC_COLOR
GND
TO SW.REG
CH+12V
AL5.8V
SW12V
AL17V
SW5V
GND
GND
TU_VIDEO
RF_VIDEO
SW_1
TO TUNER
VSC_DATA
VSC_CLK
PAUSE/COMPU_I/O
LI_5V
SCR[H]
EE[L]/5_PB[L]
RMO
P.MUTE[L]
SYNC_DET[H]
I2C_DATA2
I2C_CLK2
S.DATA_TOSYS
S.DATA_FRSYS
S.CLK
SUB_CS
SUB_RESET
SUB_BUSY
AL5V
SW5V(2)
BS_ANT/AFC
ANT_CTL[H]/S-P[H]
BS_PCTL[H]/FORCE[L]
BIT_IN[H]
S.CASS[H]
GR_ON[H]
OSD_CS
EDS_CS/R-Y_REV/EXT
STB
EDS[H]/SECAM[H]
P50_I/O
I2C_CLK_A/V
I2C_DATA_A/V
V.P_CTL
D.FF
TRICK[H]/M_TRICK[L]
SLOW_P/CNR_CTL
WIDE_DET
TO SYSCON
5
4
3
2
1
A
B
C
D
E
F
G
H

4.7 2D DIGITAL SCHEMATIC DIAGRAM [HR-S6700MS]

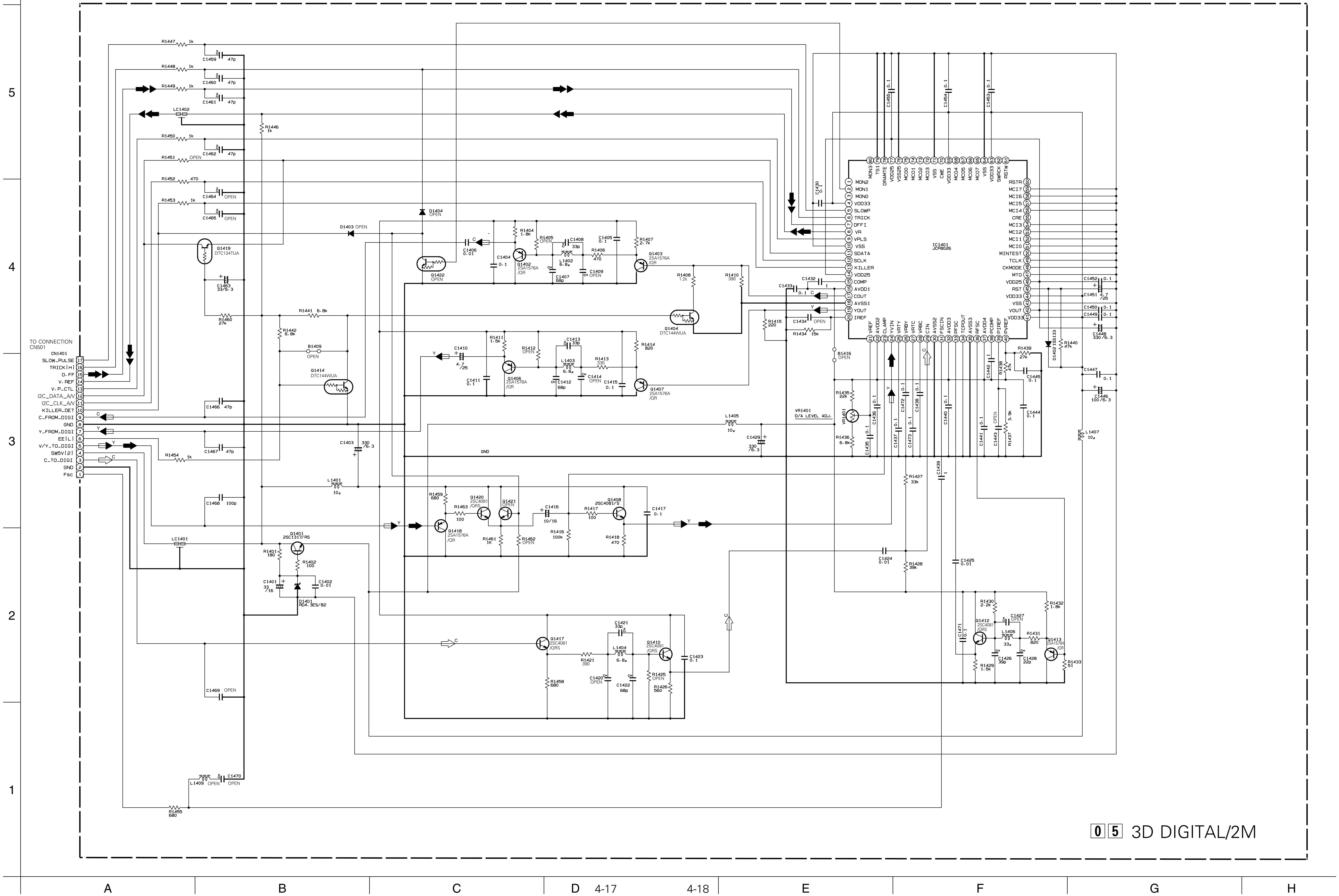
NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.



05 2D DIGITAL
IC1201
JCP8036
D/A LEVEL ADJ
TO CONNECTION CN501
CN1201
NC 17
NC 16
NC 15
NC 14
NC 13
I2C_DATA_A/V 12
I2C_CLK_A/V 11
KILLER_DET 10
C_FROM_DIGI 9
GND 8
Y_FROM_DIGI 7
EE[L] 6
V/Y_TO_DIGI 5
SW5V[2] 4
C_TO_DIGI 3
GND 2
Fsc 1
33 SIMLD
32 PO
31 R
30 VCNT
29 AVSS
28 AVDD
27 NC(TEST)
26 NC(TEST)
25 NC(TEST)
24 NC(TEST)
23 NC(TEST)
34 IIC_DATA
35 IIC_CLK
36 RESET
37 CMUTE
38 VSS
39 VDD
40 VREF
41 COUT
42 IOB
43 COMP
44 YOUT
NC(TEST) 22
NC(TEST) 21
NC(TEST) 20
FSC_IN 19
VDD 18
VSS 17
NC(TEST) 16
NC(TEST) 15
NC(TEST) 14
NC(TEST) 13
AVDD 12
1 IREF
2 AVSS
3 AVDD
4 CLP
5 YVIN
6 AVSS
7 AVDD
8 VRL
9 VRH
10 CIN
11 AVSS
C1211 100 /6.3
B1204 0Ω
L1202 100μ
C1212 0.001
C1213 0.1
C1214 1
R1209 18
R1207 5.6k
R1208 12k
C1216 0.1
C1215 330 /6.3
L1203 100μ
C1217 0.1
C1218 0.1
R1210 39k
VR1201
R1211 10k
C1219 1
C1237 0.1
C1236 0.1
L1207 100μ
C1234 0.1
C1235 330 /6.3
L1204 100μ
C1220 330 /6.3
R1218 300
C1227 0.1
C1230 0.1
C1231 0.1
C1232 0.1
C1233 0.01
LC1201 10μ
Q1201 2SC1317/RS
R1201 120
R1202 100
C1246 47 /6.3
C1247 OPEN
C1201 33/16
C1202 0.01
D1201 RD4.3ES/B3
C1203 OPEN
C1204 OPEN
C1205 OPEN
R1203 470
R1204 470
R1205 1k
C1207 47p
C1206 47p
D1202 SHORT
D1203 OPEN
R1223 OPEN
C1208 47p
C1209 OPEN
R1206 560
C1250 OPEN
L1201 1μ
C1210 33p
R1232 0
R1233 0
R1230 0
C1243 0.01
C1221 0.01
R1212 1k
B1201 OPEN
Q1202 2SA1576A/QR
R1213 330
C1222 68p
L1205 6.8μ
C1223 27p
R1214 100
C1244 4.7/25
R1231 0
C1224 0.01
R1215 1k
B1202 OPEN
Q1203 2SA1576A/QR
R1216 330
C1225 68p
L1206 6.8μ
C1226 27p
R1217 100
R1219 OPEN
R1224 560
C1228 4.7/25
Q1205 2SC4081/S
C1229 0.01
L1209 SHORT
R1220 OPEN
R1225 27k
R1227 560
L1208 15μ
Q1204 2SC4081 /QRS
C1248 0.01
Q1206 2SC4081 /QRS
C1238 18p
R1226 15k
R1228 390
R1229 OPEN
C1245 15p
C1249 OPEN
C1239 56p
R1221 OPEN
C1240 OPEN
B1203 OPEN
R1222 470
C1241 0.01
C1242 OPEN
Y
C
A
B
C
D
E
F
G
H
1
2
3
4
5

4.8 3D DIGITAL/2M SCHEMATIC DIAGRAM [HR-S7700MS]

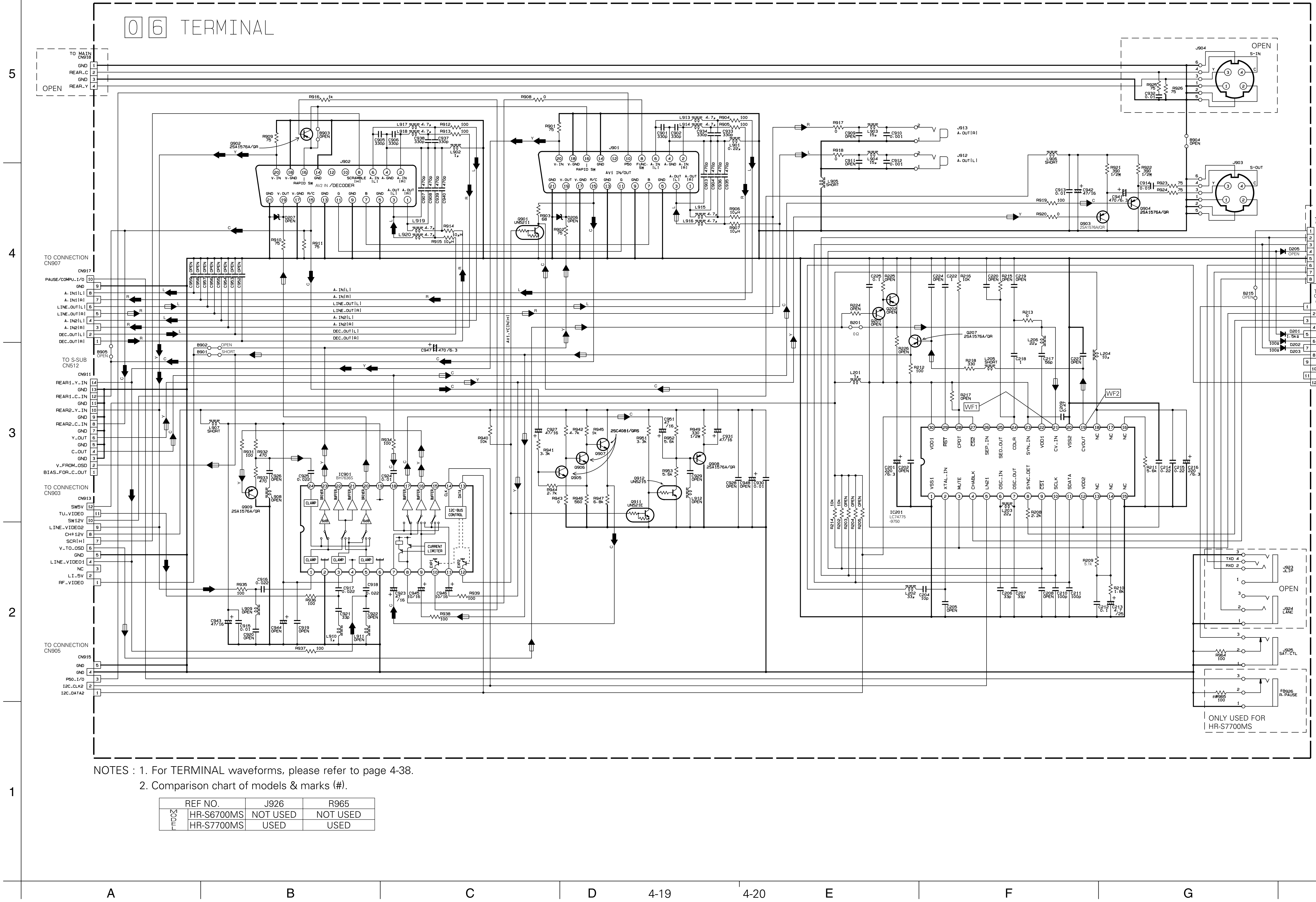
NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.



TO CONNECTION CN501
CN1401
SLOW_PULSE 17
TRICK(H) 16
D.FF 15
V.REF 14
V.P_CTL 13
I2C_DATA_A/V 12
I2C_CLK_A/V 11
KILLER_DET 10
C_FROM_DIGI 9
GND 8
Y_FROM_DIGI 7
EE(L) 6
V/Y_TO_DIGI 5
SW5V(2) 4
C_TO_DIGI 3
GND 2
Fsc 1
IC1401 JCP8026
MON2
MON1
MON0
VDD33
SLOWP
TRICK
DFFI
VR
VPLS
VSS
SDATA
SCLK
KILLER
VDD25
COMP
AVDD1
COUT
AVSS1
YOUT
IREF
MON3
TS1
DRAMTE
VDD25
VSS25
MCO0
MCO1
MCO2
MCO3
VSS
CWE
VDD33
MCO4
MCO5
MCO6
MCO7
VSS
VDD33
SWRCK
RSTW
RSTR
MCI7
MCI6
MCI5
MCI4
CRE
MCI3
MCI2
MCI1
MCI0
MINTEST
TCLK
CKMODE
MTO
VDD25
RST
VDD33
VSS
VOUT
VDD33
VREF
AVDD2
CLAMP
YIN
VRTY
VRBY
VRTC
VRBC
CIN
AVSS2
FSCIN
AVDD3
PFSC
TCPOUT
AVSS3
RFSC
AVDD4
PCOMP
PIREF
PVREF
Q1401 2SC1317/RS
Q1402 2SA1576A /QR
Q1403 2SA1576A /QR
Q1404 DTC144WUA
Q1406 2SA1576A /QR
Q1407 2SA1576A /QR
Q1408 2SC4081/S
Q1410 2SC4081 /QRS
Q1412 2SC4081 /QRS
Q1413 2SA1576A /QR
Q1414 DTC144WUA
Q1417 2SC4081 /QRS
Q1418 2SA1576A /QR
Q1419 DTC124TUA
Q1420 2SC4081 /QRS
Q1421 OPEN
Q1422 OPEN
D1401 RD4.3ES/B2
D1402 1SS133
D1403 OPEN
D1404 OPEN
VR1401 D/A LEVEL ADJ.
LC1401
LC1402
L1401 10μ
L1402 6.8μ
L1403 6.8μ
L1404 6.8μ
L1405 10μ
L1406 33μ
L1407 10μ
L1409 OPEN
B1409 OPEN
B1416 OPEN
R1401 180
R1402 100
R1404 1.8k
R1405 OPEN
R1406 470
R1407 2.7k
R1408 1.2k
R1410 390
R1411 1.5k
R1412 OPEN
R1413 330
R1414 820
R1415 220
R1416 100k
R1417 100
R1418 470
R1421 390
R1425 OPEN
R1426 560
R1427 33k
R1428 39k
R1429 1.5k
R1430 2.2k
R1431 820
R1432 1.8k
R1433 51
R1434 15k
R1435 22k
R1436 6.8k
R1437 3.9k
R1438 47k
R1439 27k
R1440 47k
R1441 6.8k
R1442 6.8k
R1446 1k
R1447 1k
R1448 1k
R1449 1k
R1450 1k
R1451 OPEN
R1452 470
R1453 1k
R1454 1k
R1455 680
R1458 680
R1459 680
R1460 27k
R1461 1K
R1462 OPEN
R1463 100
C1401 33 /16
C1402 0.01
C1403 330 /6.3
C1404 0.1
C1405 0.1
C1406 0.01
C1407 68p
C1408 33p
C1409 OPEN
C1410 4.7 /25
C1411 0.1
C1412 68p
C1413 33p
C1414 OPEN
C1415 0.1
C1416 10/16
C1417 0.1
C1420 OPEN
C1421 33p
C1422 68p
C1423 0.1
C1424 0.01
C1425 0.01
C1426 39p
C1427 OPEN
C1428 22p
C1429 330 /6.3
C1430 0.1
C1432 1
C1433 0.1
C1434 OPEN
C1435 0.1
C1436 0.1
C1437 0.1
C1438 0.1
C1439 1
C1440 0.1
C1441 0.1
C1442 1
C1443 OPEN
C1444 0.1
C1445 0.1
C1446 100/6.3
C1447 0.1
C1448 330/6.3
C1449 0.1
C1450 0.1
C1451 4.7 /25
C1452 0.1
C1453 0.1
C1454 0.1
C1455 0.1
C1459 47p
C1460 47p
C1461 47p
C1462 47p
C1463 33/6.3
C1464 OPEN
C1465 OPEN
C1466 47p
C1467 47p
C1468 100p
C1469 OPEN
C1470 OPEN
C1471 0.1
C1472 0.1
C1473 0.1
GND
Y
C
1
2
3
4
5
A
B
C
D
E
F
G
H
05 3D DIGITAL/2M

4.9 TERMINAL SCHEMATIC DIAGRAM

NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.



06 TERMINAL
TO MAIN CN918
GND
REAR_C
GND
REAR_Y
OPEN
TO CONNECTION CN907
CN917
PAUSE/COMPU_I/O
GND
A.IN1(L)
A.IN1(R)
LINE_OUT(L)
LINE_OUT(R)
A.IN2(L)
A.IN2(R)
DEC_OUT(L)
DEC_OUT(R)
TO S-SUB CN512
CN911
REAR1_Y_IN
REAR1_C_IN
REAR2_Y_IN
REAR2_C_IN
Y_OUT
C_OUT
V_FROM_OSD
BIAS_FOR_C_OUT
TO CONNECTION CN903
CN913
SW5V
TU_VIDEO
SW12V
LINE_VIDEO2
CH+12V
SCR(H)
V_TO_OSD
LINE_VIDEO1
NC
LI_5V
RF_VIDEO
TO CONNECTION CN905
CN915
P50_I/O
I2C_CLK2
I2C_DATA2
J902
AV2 IN /DECODER
RAPID SW
SCRAMBLE (H)
J901
AV1 IN/OUT
FUNC. SW
IC901
BH7636S
CLAMP
DRIVER
BUFFER
6dB
I2C-BUS CONTROL
CURRENT LIMITER
Q902 2SA1576A/QR
Q909 2SA1576A/QR
Q901 UN5211
Q905
Q906
Q907 2SC4081/QRS
Q908 2SA1576A/QR
Q911 UN521E
Q912 UN5215
J913 A.OUT(R)
J912 A.OUT(L)
J904 S-IN
J903 S-OUT
Q903 2SA1576A/QR
Q904 2SA1576A/QR
TO NAVI CN912
SD_FROSD
SCLK_TOOSD
SD_TOOSD
CSOSD_SUB
GND
TXD
RXD
LANC_I/O
TO CONNECTION CN904
CN914
SAT_CTL
P.MUTE(L)
SYNC_DET(H)
CHARA_DATA
OSD_CS
S.CLK
SD_FROSYS
SD_TOSYS
EDS_CS
STB
EDS(H)
2Fsc
Q201
Q202
G207 2SA1576A/QR
IC201 LC74775 -9750
VDD1
RST
CPDT
CS2
SEP_IN
SEO_OUT
CDLR
SYN_IN
CV_IN
VSS2
CVOUT
VSS1
XTAL_IN
MUTE
CHABLK
LN21
OSC_IN
OSC_OUT
SYNC_DET
SCLK
SDATA
VDD2
WF1
WF2
J923 JLIP
J924 LANC
J925 SAT.CTL
#J926 R.PAUSE
ONLY USED FOR HR-S7700MS
5
4
3
2
1
A
B
C
D
E
F
G
H

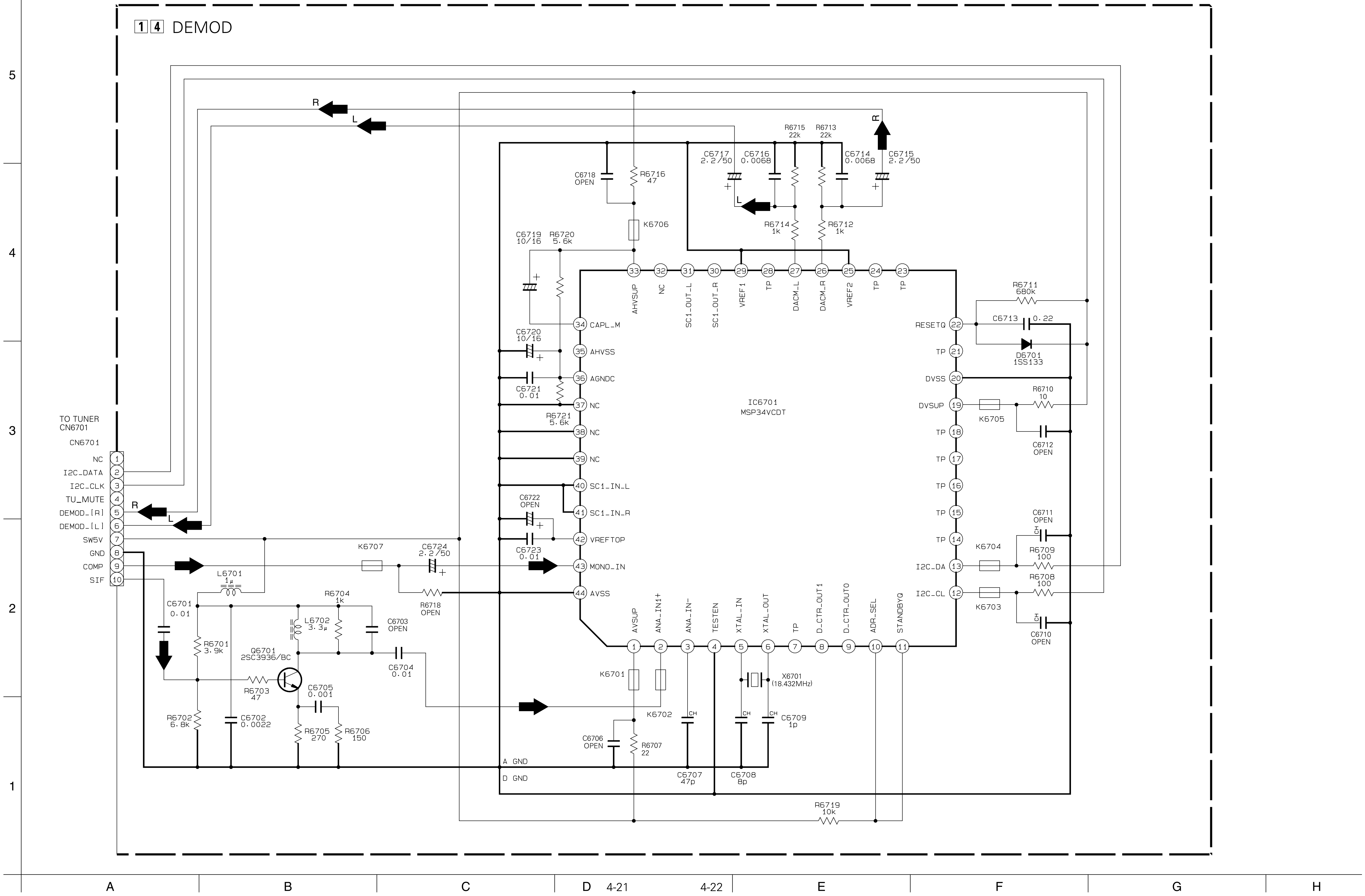
NOTES : 1. For TERMINAL waveforms, please refer to page 4-38.

2. Comparison chart of models & marks (#).

	REF NO.	J926	R965
MODEL	HR-S6700MS	NOT USED	NOT USED
	HR-S7700MS	USED	USED

4.10 DEMODULATOR SCHEMATIC DIAGRAM

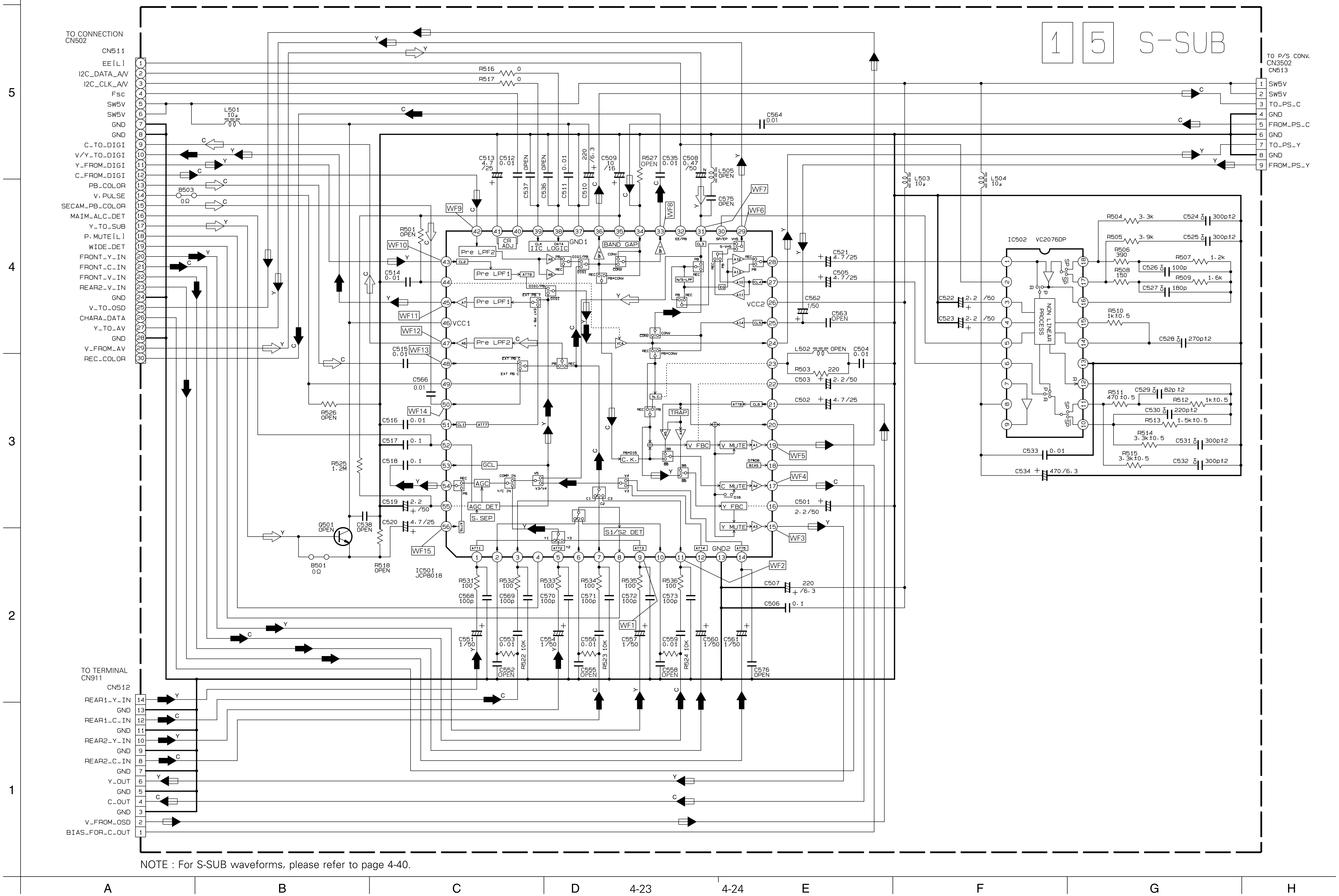
NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.



1 4 DEMOD
TO TUNER
CN6701
CN6701
NC
I2C_DATA
I2C_CLK
TU_MUTE
DEMOD_[R]
DEMOD_[L]
SW5V
GND
COMP
SIF
R
L
IC6701
MSP34VCDT
AHVSUP
NC
SC1_OUT_L
SC1_OUT_R
VREF1
TP
DACM_L
DACM_R
VREF2
CAPL_M
AHVSS
AGNDC
NC
SC1_IN_L
SC1_IN_R
VREFTOP
MONO_IN
AVSS
AVSUP
ANA_IN1+
ANA_IN-
TESTEN
XTAL_IN
XTAL_OUT
D_CTR_OUT1
D_CTR_OUT0
ADR_SEL
STANDBYQ
RESETQ
DVSS
DVSUP
I2C_DA
I2C_CL
A GND
D GND
C6718 OPEN
R6716 47
K6706
C6717 2.2/50
C6716 0.0068
R6715 22k
R6713 22k
C6714 0.0068
C6715 2.2/50
R6714 1k
R6712 1k
C6719 10/16
R6720 5.6k
C6720 10/16
C6721 0.01
R6721 5.6k
C6722 OPEN
C6723 0.01
R6711 680k
C6713 0.22
D6701 1SS133
R6710 10
K6705
C6712 OPEN
C6711 OPEN
K6704
R6709 100
R6708 100
K6703
C6710 OPEN
CH
K6707
C6724 2.2/50
L6701 1μ
R6718 OPEN
R6704 1k
C6701 0.01
L6702 3.3μ
C6703 OPEN
R6701 3.9k
Q6701 2SC3936/BC
C6704 0.01
R6703 47
C6705 0.001
R6702 6.8k
C6702 0.0022
R6705 270
R6706 150
K6701
K6702
X6701 (18.432MHz)
C6706 OPEN
R6707 22
C6707 47p
C6708 8p
C6709 1p
R6719 10k
5
4
3
2
1
A
B
C
D
E
F
G
H

4.11 S-SUB SCHEMATIC DIAGRAM

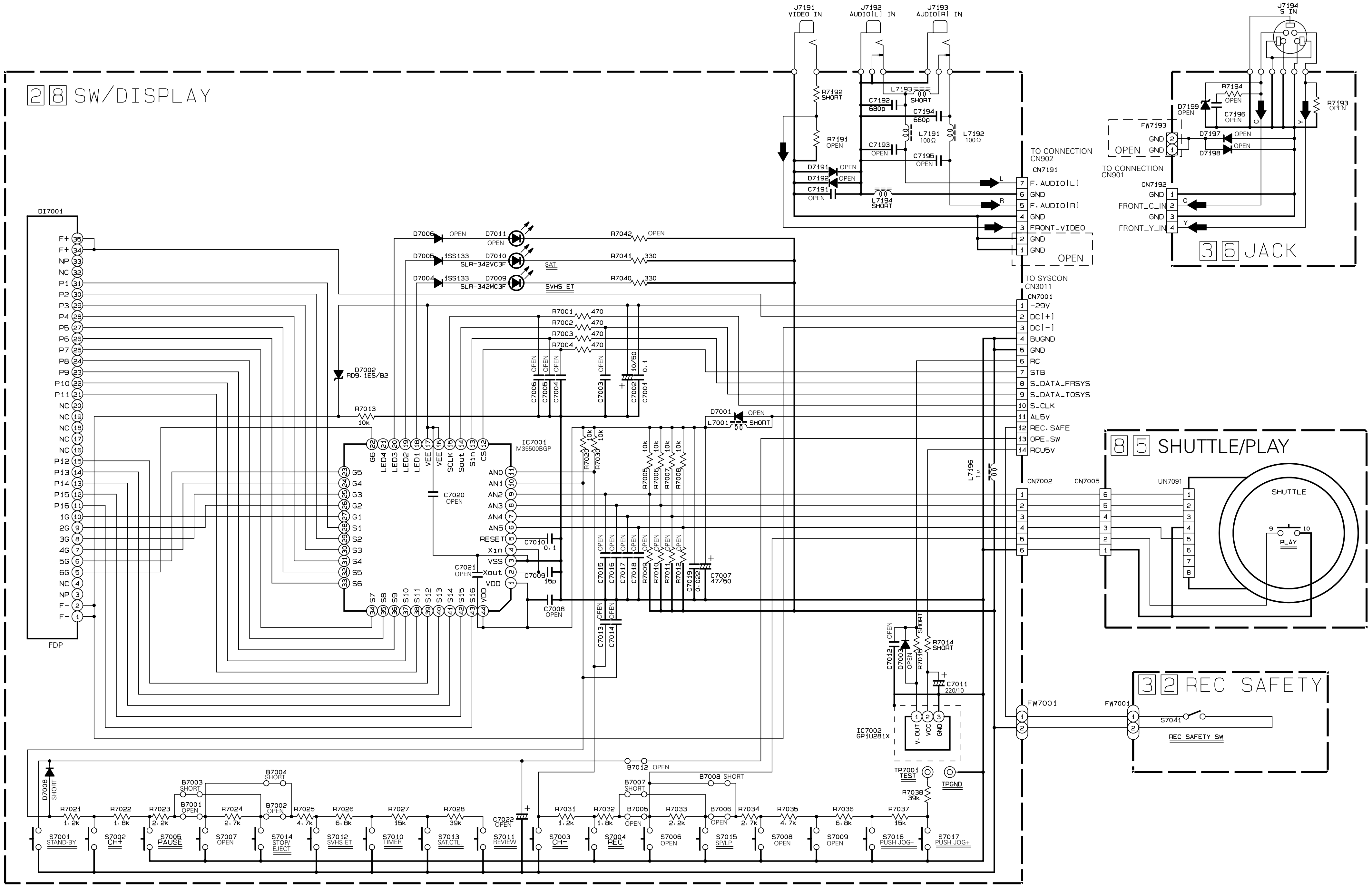
NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.


15 S-SUB
TO CONNECTION CN502
CN511
1 EE[L]
2 I2C_DATA_A/V
3 I2C_CLK_A/V
4 Fsc
5 SW5V
6 SW5V
7 GND
8 GND
9 C_TO_DIGI
10 V/Y_TO_DIGI
11 Y_FROM_DIGI
12 C_FROM_DIGI
13 PB_COLOR
14 V.PULSE
15 SECAM_PB_COLOR
16 MAIM_ALC_DET
17 Y_TO_SUB
18 P.MUTE[L]
19 WIDE_DET
20 FRONT_Y_IN
21 FRONT_C_IN
22 FRONT_V_IN
23 REAR2_V_IN
24 GND
25 V_TO_OSD
26 CHARA_DATA
27 Y_TO_AV
28 GND
29 V_FROM_AV
30 REC_COLOR
TO TERMINAL CN911
CN512
14 REAR1_Y_IN
13 GND
12 REAR1_C_IN
11 GND
10 REAR2_Y_IN
9 GND
8 REAR2_C_IN
7 GND
6 Y_OUT
5 GND
4 C_OUT
3 GND
2 V_FROM_OSD
1 BIAS_FOR_C_OUT
TO P/S CONV. CN3502
CN513
1 SW5V
2 SW5V
3 TO_PS_C
4 GND
5 FROM_PS_C
6 GND
7 TO_PS_Y
8 GND
9 FROM_PS_Y
R516 0
R517 0
L501 10μ
B503 0Ω
C564 0.01
C513 4.7 /25
C512 0.01
C537 OPEN
C536 OPEN
C511 0.01
C510 220 /6.3
C509 10 /16
R527 OPEN
C535 0.01
C508 0.47 /50
L505 OPEN
C575 OPEN
L503 10μ
L504 10μ
WF1 WF2 WF3 WF4 WF5 WF6 WF7 WF8 WF9 WF10 WF11 WF12 WF13 WF14 WF15
R501 OPEN
C514 0.01
C515 0.01
C566 0.01
R526 OPEN
C516 0.01
C517 0.1
C518 0.1
R525 1.2M
C519 2.2 /50
C520 4.7/25
Q501 OPEN
C538 OPEN
B501 0Ω
R518 OPEN
IC501 JCP8018
Pre LPF2
CR ADJ
IIC LOGIC
CLK DATA
GND1
BAND GAP
Pre LPF1
VCC1
VCC2
GND2
GCL
AGC
AGC DET
S.SEP
S1/S2 DET
C.K.
TRAP
V FBC
V MUTE
C MUTE
Y FBC
Y MUTE
N.C
VCA
CONV
PB+CONV
REC PB
EXT PB
DIGI/PB
COMP IN
Y/C IN
S-VHS
N/S-LPF
ATT1 ATT2 ATT3 ATT4 ATT5 ATT6 ATT7 ATT8 ATT9
CL1 CL2 CL3 CL4 CL5 CL6
BIAS
C521 4.7/25
C505 4.7/25
C562 1/50
C563 OPEN
L502 OPEN
C504 0.01
R503 220
C503 2.2/50
C502 4.7/25
C501 2.2/50
C507 220 /6.3
C506 0.1
R531 100
C568 100p
R532 100
C569 100p
R533 100
C570 100p
R534 100
C571 100p
R535 100
C572 100p
R536 100
C573 100p
C551 1/50
C553 0.01
R522 10K
C552 OPEN
C554 1/50
C556 0.01
R523 10K
C555 OPEN
C557 1/50
C559 0.01
R524 10K
C558 OPEN
C560 1/50
C561 1/50
C576 OPEN
IC502 VC2076DP
NON LINEAR PROCESS
R504 3.3k
C524 300p±2
R505 3.9k
C525 300p±2
R506 390
R507 1.2k
R508 150
C526 100p
R509 1.6k
C527 180p
C522 2.2 /50
C523 2.2 /50
R510 1k±0.5
C528 270p±2
R511 470±0.5
C529 82p ±2
R512 1k±0.5
C530 220p±2
R513 1.5k±0.5
R514 3.3k±0.5
C531 300p±2
R515 3.3k±0.5
C532 300p±2
C533 0.01
C534 470/6.3
Y
C
5
4
3
2
1
A
B
C
D
E
F
G
H

NOTE : For S-SUB waveforms, please refer to page 4-40.

4.12 SW/DISPLAY, REC SAFETY, JACK AND SHUTTLE/PLAY SCHEMATIC DIAGRAMS [HR-S6700MS]

NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.



28 SW/DISPLAY
36 JACK
85 SHUTTLE/PLAY
32 REC SAFETY
J7191 VIDEO IN
J7192 AUDIO(L) IN
J7193 AUDIO(R) IN
J7194 S IN
DI7001
FDP
IC7001 M35500BGP
IC7002 GP1U281X
TO CONNECTION CN902
CN7191
TO CONNECTION CN901
CN7192
TO SYSCON CN3011
CN7001
CN7002
CN7005
UN7091
SHUTTLE
PLAY
FW7001
FW7193
F.AUDIO(L)
F.AUDIO(R)
FRONT_VIDEO
FRONT_C_IN
FRONT_Y_IN
GND
-29V
DC(+)
DC(-)
BUGND
RC
STB
S_DATA_FRSYS
S_DATA_TOSYS
S_CLK
AL5V
REC.SAFE
OPE_SW
RCU5V
D7011 SLR-342VC3F SAT
D7010
D7009 SLR-342MC3F SVHS ET
D7006 OPEN
D7005 1SS133
D7004 1SS133
D7002 RD9.1ES/B2
S7001 STAND-BY
S7002 CH+
S7005 PAUSE
S7007 OPEN
S7014 STOP/EJECT
S7012 SVHS ET
S7010 TIMER
S7013 SAT.CTL.
S7011 REVIEW
S7003 CH−
S7004 REC
S7006 OPEN
S7015 SP/LP
S7008 OPEN
S7009 OPEN
S7016 PUSH JOG−
S7017 PUSH JOG+
S7041 REC SAFETY SW
TP7001 TEST
TPGND
C7007 47/50
C7011 220/10
C7002 10/50

4.13 SW/DISPLAY, REC SAFETY, JACK AND JOG SCHEMATIC DIAGRAMS [HR-S7700MS]

NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.

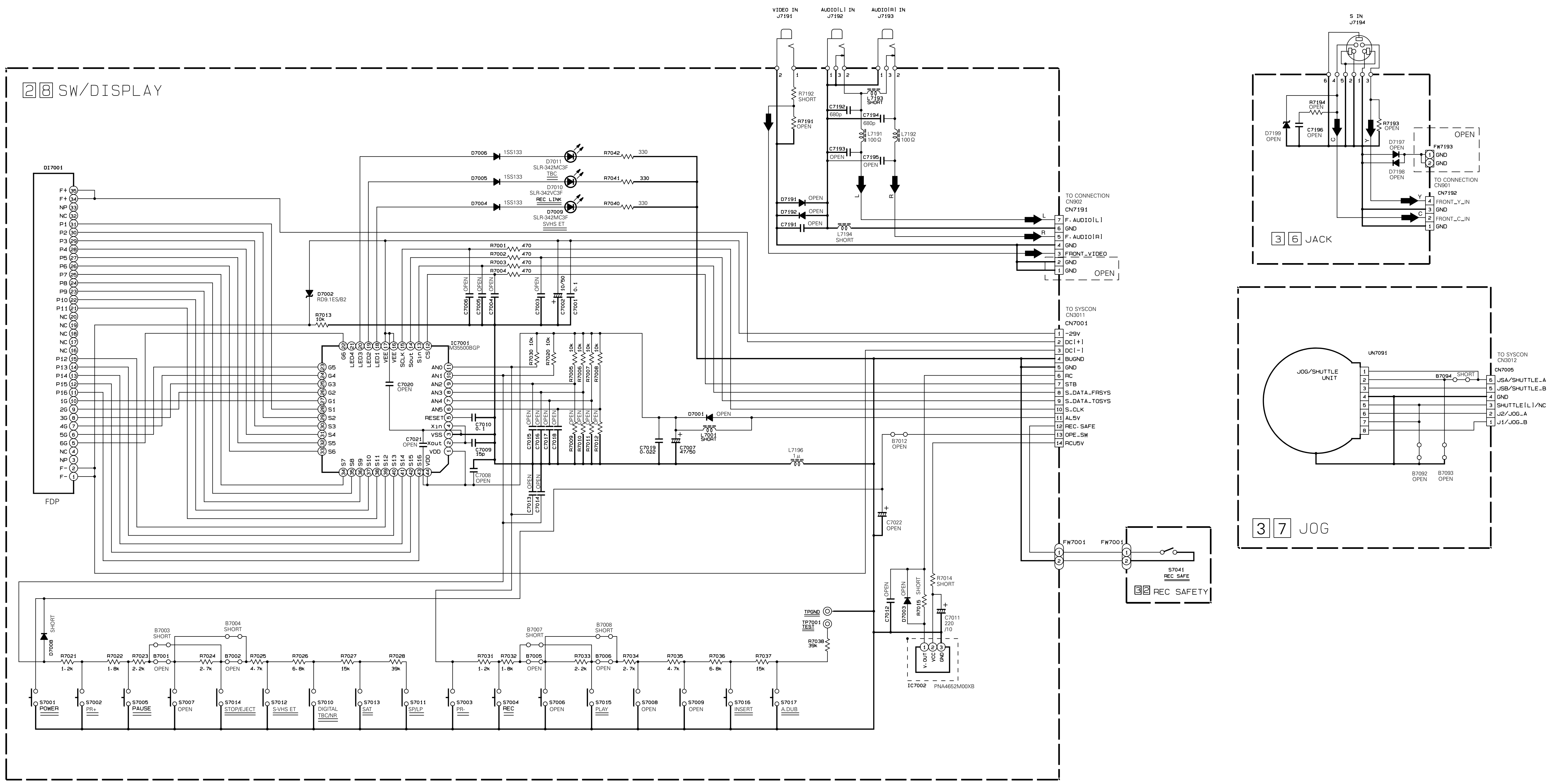
5

4

3

2

1

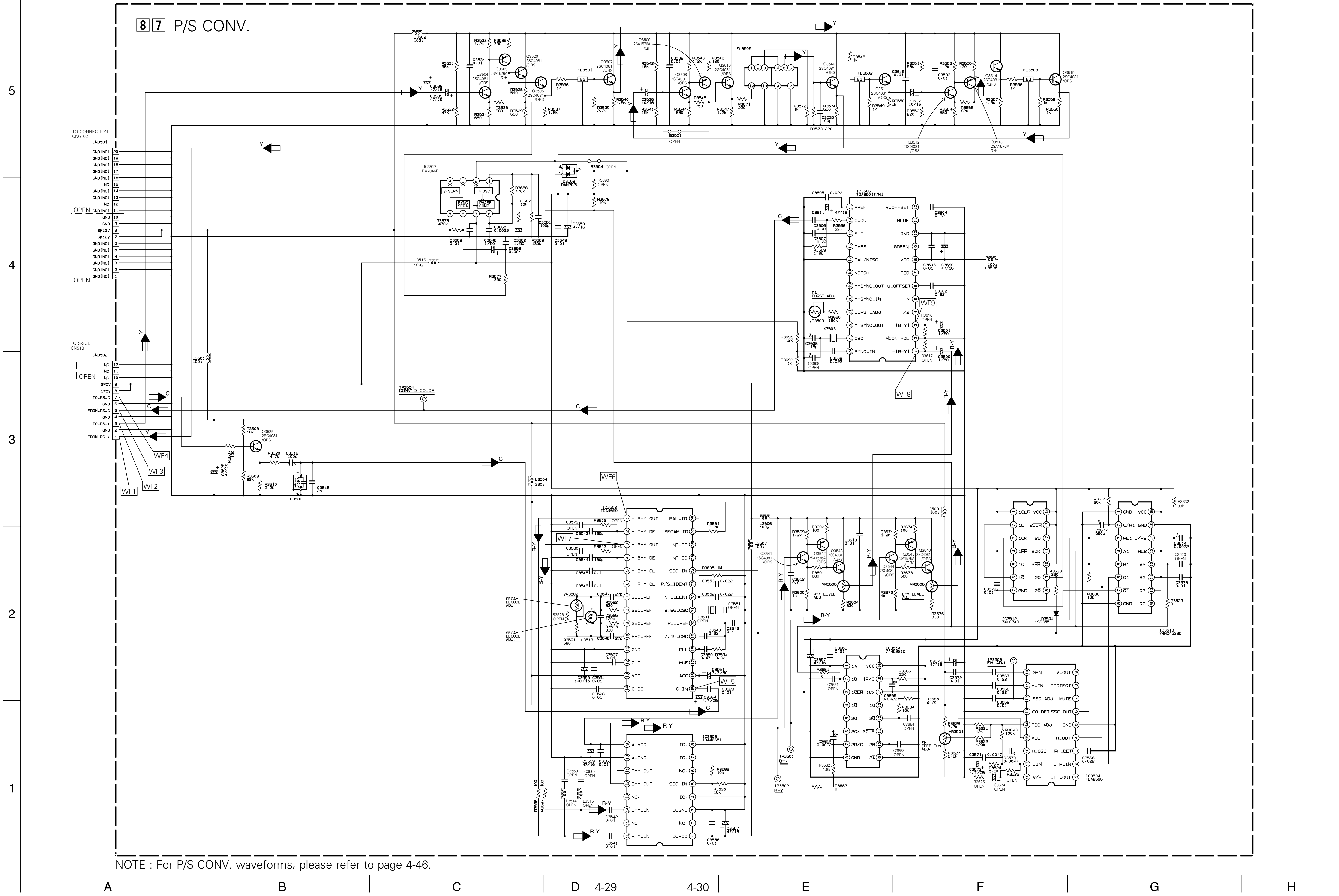


28 SW/DISPLAY
DI7001
FDP
IC7001 MN35500BGP
D7011 SLR-342MC3F TBC
D7010 SLR-342VC3F REC LINK
D7009 SLR-342MC3F SVHS ET
D7002 RD9.1ES/B2
VIDEO IN J7191
AUDIO(L) IN J7192
AUDIO(R) IN J7193
TO CONNECTION CN902
CN7191
F.AUDIO(L)
GND
F.AUDIO(R)
GND
FRONT_VIDEO
GND
GND
OPEN
TO SYSCON CN3011
CN7001
-29V
DC(+)
DC(-)
BUGND
GND
RC
STB
S.DATA.FRSYS
S.DATA.TOSYS
S.CLK
AL5V
REC.SAFE
OPE.SW
RCU5V
S IN J7194
36 JACK
TO CONNECTION CN901
CN7192
FRONT_Y_IN
GND
FRONT_C_IN
GND
UN7091
JOG/SHUTTLE UNIT
TO SYSCON CN3012
CN7005
JSA/SHUTTLE_A
JSB/SHUTTLE_B
GND
SHUTTLE(L)/NC
J2/JOG_A
J1/JOG_B
37 JOG
FW7001
S7041 REC SAFE
32 REC SAFETY
IC7002 PNA4652M00XB
TPGND
TP7001 TEST
S7001 POWER
S7002 PR+
S7005 PAUSE
S7007 OPEN
S7014 STOP/EJECT
S7012 S-VHS ET
S7010 DIGITAL TBC/NR
S7013 SAT
S7011 SP/LP
S7003 PR-
S7004 REC
S7006 OPEN
S7015 PLAY
S7008 OPEN
S7009 OPEN
S7016 INSERT
S7017 A.DUB

A B C D 4-27 4-28 E F G H

4.14 P/S CONVERTER SCHEMATIC DIAGRAM

NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.

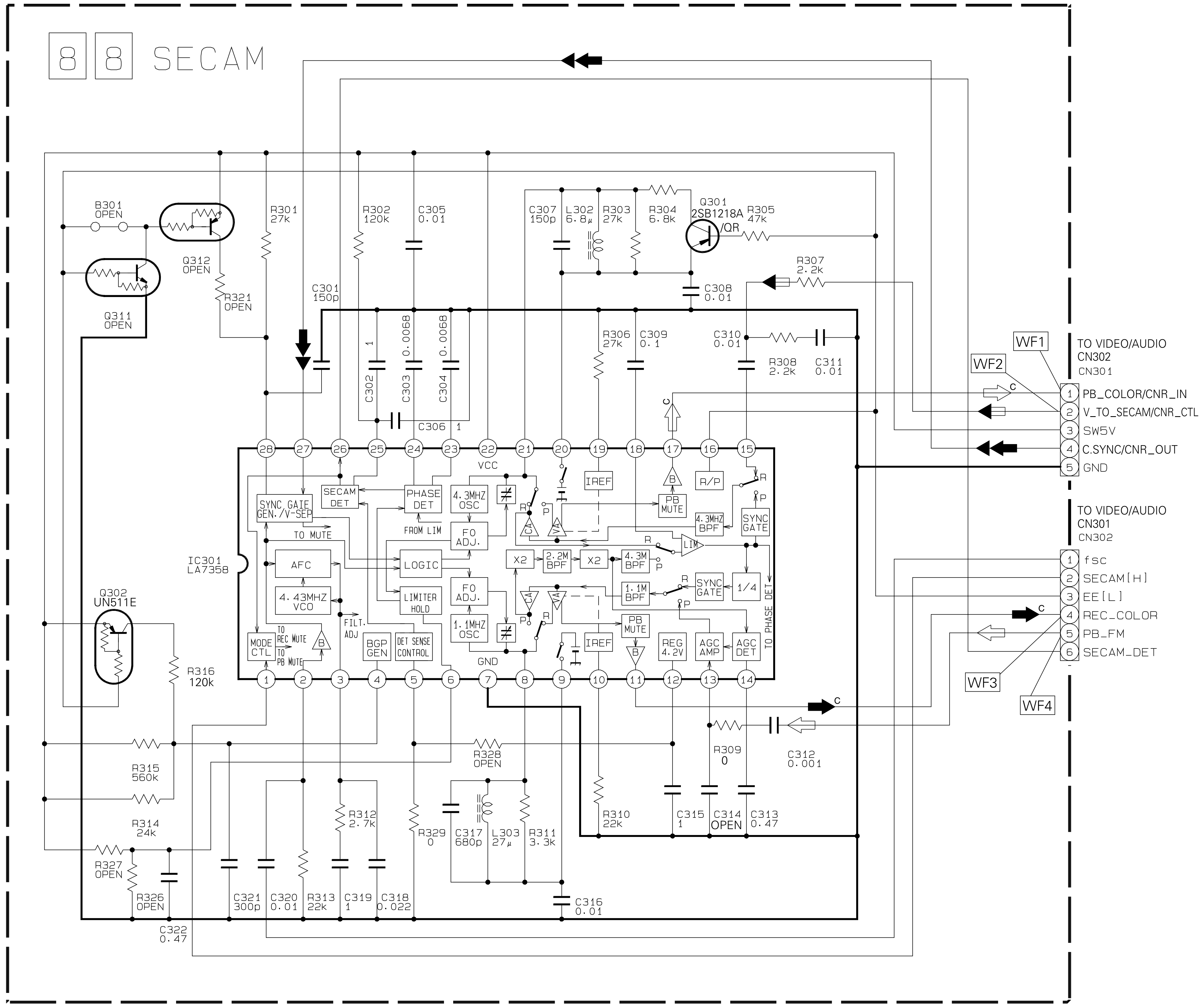


8 7 P/S CONV.
TO CONNECTION CN6102
CN3501
OPEN
TO S-SUB CN513
CN3502
GND(NC)
NC
GND
SW12V
SW5V
TO_PS_C
FROM_PS_C
TO_PS_Y
FROM_PS_Y
WF1
WF2
WF3
WF4
WF5
WF6
WF7
WF8
WF9
IC3517 BA7046F
V-SEPA
H-OSC
SYNC SEPA
PHASE COMP
D3502 DAN202U
B3504 OPEN
B3501 OPEN
FL3501
FL3502
FL3503
FL3505
FL3506
L3502
L3516
L3501
L3504
L3503
L3506
L3507
Q3504
Q3505
Q3506
Q3507
Q3508
Q3509
Q3510
Q3511
Q3512
Q3513
Q3514
Q3515
Q3520
Q3525
Q3540
Q3541
Q3542
Q3543
Q3544
Q3545
Q3546
2SC4081 /QRS
2SA1576A /QR
IC3505 TDA8501T/N1
V_REF
C_OUT
FLT
CVBS
PAL/NTSC
NOTCH
Y+SYNC_OUT
Y+SYNC_IN
BURST_ADJ
OSC
SYNC_IN
V_OFFSET
BLUE
GND
GREEN
VCC
RED
U_OFFSET
Y
H/2
-(B-Y)
MCONTROL
-(R-Y)
PAL BURST ADJ.
VR3503
X3503
TP3504 CONV_D COLOR
IC3502 TDA4650
-(R-Y)OUT
-(R-Y)DE
-(B-Y)OUT
-(B-Y)DE
-(B-Y)CL
-(R-Y)CL
SEC_REF
GND
C_D
VCC
C_DC
PAL_ID
SECAM_ID
NT_ID
SSC_IN
P/S_IDENT
NT_IDENT
8.86_OSC
PLL_REF
7.15_OSC
PLL
HUE
ACC
C_IN
SECAM DECODE ADJ.
VR3502
X3501 OPEN
IC3503 TDA4665T
A_VCC
A_GND
R-Y_OUT
B-Y_OUT
NC
B-Y_IN
R-Y_IN
IC
SSC_IN
D_GND
D_VCC
TP3501 B-Y
TP3502 R-Y
VR3505 R-Y LEVEL ADJ.
VR3506 B-Y LEVEL ADJ.
IC3512 74HC74D
1CLR VCC 1D 2CLR 1CK 2D 1PR 2CK 1Q 2PR 1Q 2Q GND 2Q
D3504 1SS355
IC3513 74HC4538D
GND VCC C/R1 GND RE1 C/R2 A1 RE2 B1 A2 Q1 B2 Q1 Q2 GND Q2
IC3514 74HC221D
1A VCC 1B 1R/C 1CLR 1Cx 1Q 1Q 2Q 2CLR 2Cx 2R/C 2B GND 2A
TP3503 FH ADJ.
VR3501 FH FREE RUN ADJ.
IC3504 TDA2595
GEN V_OUT V_IN PROTECT FSC_ADJ MUTE CO_DET SSC_OUT FSC_ADJ GND VCC H_OUT H_OSC PH_DET LIM LFP_IN V/F CTL_OUT
Y
C
B-Y
R-Y
A B C D E F G H
5 4 3 2 1

NOTE : For P/S CONV. waveforms, please refer to page 4-46.

4.15 SECAM SCHEMATIC DIAGRAM

NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.



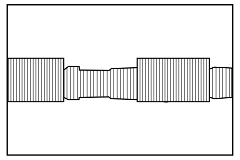
8 8 SECAM
B301 OPEN
Q312 OPEN
Q311 OPEN
R321 OPEN
R301 27k
R302 120k
C305 0.01
C301 150p
C302 1
C303 0.0068
C304 0.0068
C306 1
C307 150p
L302 6.8μ
R303 27k
R304 6.8k
Q301 2SB1218A /QR
R305 47k
C308 0.01
R307 2.2k
R306 27k
C309 0.1
C310 0.01
R308 2.2k
C311 0.01
WF1
WF2
TO VIDEO/AUDIO CN302
CN301
1 PB_COLOR/CNR_IN
2 V_TO_SECAM/CNR_CTL
3 SW5V
4 C.SYNC/CNR_OUT
5 GND
TO VIDEO/AUDIO CN301
CN302
1 fsc
2 SECAM[H]
3 EE[L]
4 REC_COLOR
5 PB_FM
6 SECAM_DET
WF3
WF4
IC301 LA7358
VCC
GND
SYNC GATE GEN./V-SEP
TO MUTE
SECAM DET
PHASE DET
FROM LIM
4.3MHZ OSC
F0 ADJ.
LOGIC
LIMITER HOLD
AFC
4.43MHZ VCO
FILT. ADJ
MODE CTL
TO REC MUTE
TO PB MUTE
BGP GEN
DET SENSE CONTROL
1.1MHZ OSC
X2
2.2M BPF
4.3M BPF
1.1M BPF
IREF
PB MUTE
R/P
4.3MHZ BPF
SYNC GATE
LIM
1/4
REG 4.2V
AGC AMP
AGC DET
TO PHASE DET
Q302 UN511E
R316 120k
R315 560k
R314 24k
R327 OPEN
R326 OPEN
C322 0.47
C321 300p
C320 0.01
R313 22k
C319 1
C318 0.022
R312 2.7k
R329 0
R328 OPEN
C317 680p
L303 27μ
R311 3.3k
C316 0.01
R310 22k
C315 1
C314 OPEN
C313 0.47
R309 0
C312 0.001

NOTE : For SECAM waveforms, please refer to page 4-47.

WAVEFORMS

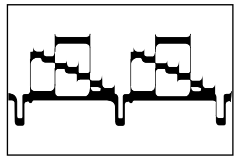
— VIDEO/AUDIO —

WF1 IC1-1



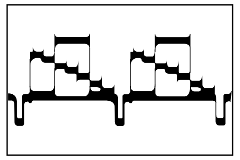
PB 0.3 Vp-p
20 mV/5 msec/DIV

WF2 IC1-11



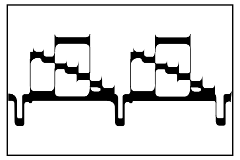
REC/PB 0.5 Vp-p
10 mV/20 µsec/DIV

WF3 IC1-13



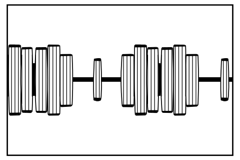
REC/PB 0.5 Vp-p
10 mV/20 µsec/DIV

WF4 IC1-14



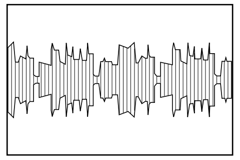
PB 0.5 Vp-p
20 mV/20 µsec/DIV

WF5-1 IC1-16



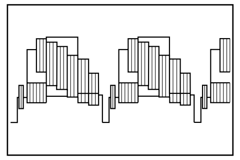
PAL REC 0.64 Vp-p
20 mV/20 µsec/DIV

WF5-2 IC1-16



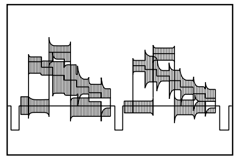
SECAM REC 0.46 Vp-p
10 mV/20 µsec/DIV

WF6-1 IC1-18



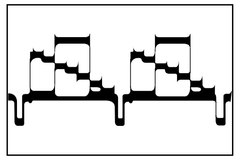
PAL REC 0.96 Vp-p
20 mV/20 µsec/DIV

WF6-2 IC1-18



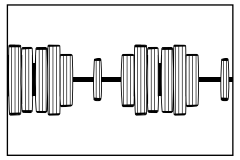
SECAM REC 1.08 Vp-p
20 mV/20 µsec/DIV

WF7 IC1-27



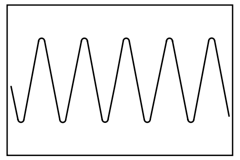
PB 2.1 Vp-p
50 mV/20 µsec/DIV

WF8 IC1-30



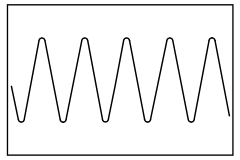
PAL PB 0.68 Vp-p
20 mV/20 µsec/DIV

WF9 IC1-48



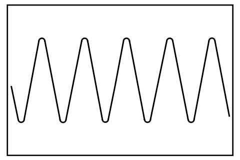
PB 0.48 Vp-p
10 mV/0.5 msec/DIV

WF10 IC1-52



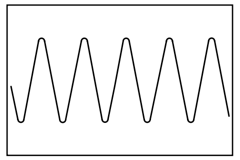
REC 0.12 Vp-p
2 mV/0.5 msec/DIV

WF11 IC1-62



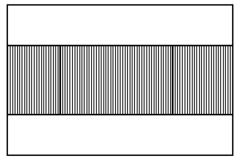
REC/PB 0.9 Vp-p
20 mV/0.5 msec/DIV

WF12 IC1-80



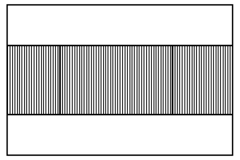
REC 0.2 Vp-p
5 mV/0.5 msec/DIV

WF13 IC1-97



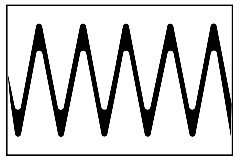
REC 1.5 Vp-p
50 mV/5 msec/DIV

WF14 IC1-105



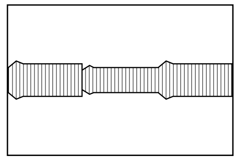
REC 1.8 Vp-p
0.1 V/1 msec/DIV

WF15 IC1-119



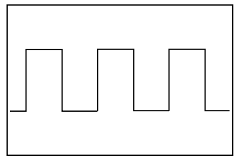
REC 0.7 Vp-p
20 mV/0.5 msec/DIV

WF16 TP2253 A.FM



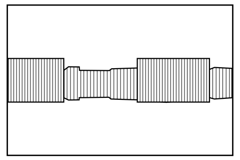
PB 0.6 Vp-p
50 mV/5 msec/DIV

WF17 TP111 D.FF



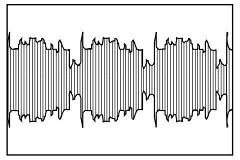
REC/PB 3.4 Vp-p
0.1 V/10 msec/DIV

WF18 TP106 PB.FM



PB 0.32 Vp-p
20 mV/5 msec/DIV

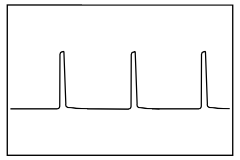
WF19 IC2-5



SECAM REC 0.2 Vp-p
5 mV/20 µsec/DIV

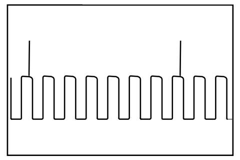
— SYSCON —

WF1 CN3001-4 D.PG



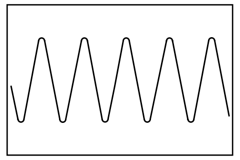
REC/PB 4.5 Vp-p
0.1 V/10 msec/DIV

WF2 CN3001-5 D.FG



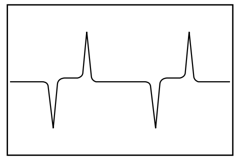
REC/PB 4.5 Vp-p
0.1 V/10 msec/DIV

WF3 CN3003-2 CAP_FG



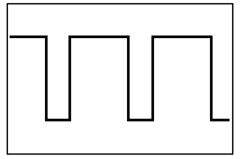
REC/PB 2.4 Vp-p
50 mV/0.5 msec/DIV

WF4 TP4001 CTL.P



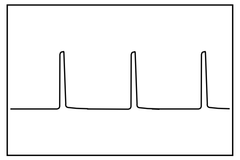
PB 2.8 Vp-p
0.1 V/10 msec/DIV

WF5 IC3001-1 CTL(+)



REC 3.5 Vp-p
0.1 V/10 msec/DIV

WF6 IC3001-98 C.SYNC



REC/PB 4.0 Vp-p
0.1 V/20 µsec/DIV

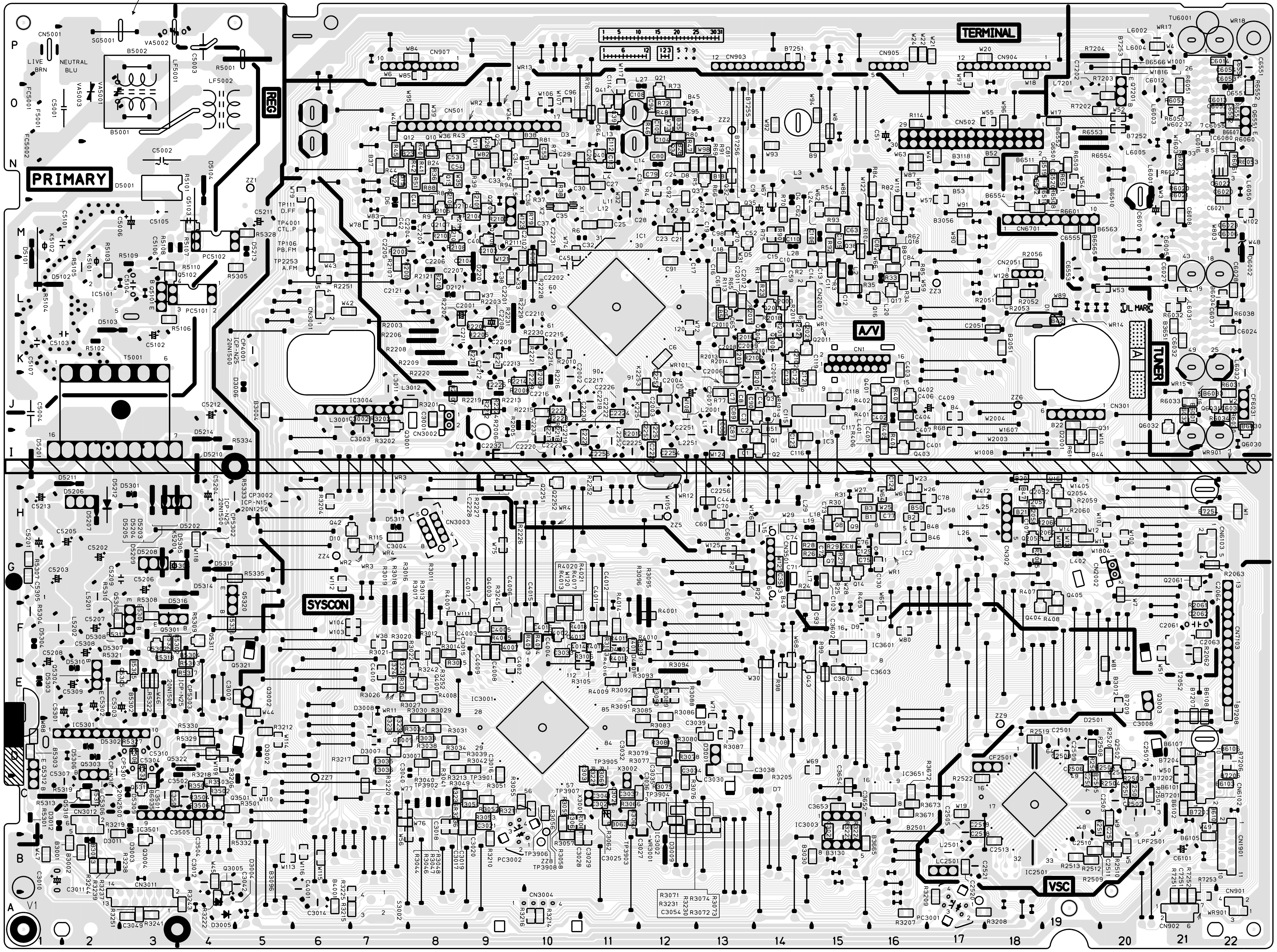
COMPONENT PARTS LOCATION GUIDE ＜MAIN＞

REF.NO.	LOCATION		
CAPACITOR			
C1	B	C	13I
C2	B	C	13I
C3	B	C	13J
C4	B	C	14J
C5	A	D	13J
C6	B	C	12K
C7	B	C	13J
C8	B	C	13J
C9	A	D	14M
C10	B	C	14L
C11	B	C	15L
C12	B	C	15L
C13	B	C	15L
C14	B	C	15L
C15	B	C	14M
C16	B	C	13L
C17	A	D	12M
C18	A	D	13M
C19	A	D	13M
C20	A	D	13M
C21	B	C	12M
C22	A	D	12M
C23	B	C	12M
C24	B	C	12N
C25	B	C	11M
C26	B	C	10N
C27	B	C	11N
C28	A	D	11M
C29	B	C	11N
C30	B	C	11N
C31	A	D	11N
C32	A	D	11M
C33	A	D	9N
C34	B	C	9N
C35	B	C	10M
C36	A	D	10N
C37	B	C	10M
C38	A	D	9L
C39	B	C	10M
C40	A	D	9M
C41	B	C	8M
C42	B	C	7M
C44	B	C	13H
C45	A	D	10L
C51	A	D	16N
C52	A	D	13M
C53	B	C	8N
C54	B	C	8N
C55	B	C	10N
C56	B	C	9N
C59	B	C	14L
C60	A	D	13H
C61	B	C	13L
C62	B	C	14M
C63	B	C	15M
C64	B	C	11O
C65	A	D	13K
C69	B	C	13H
C70	B	C	13H
C71	B	C	14G
C72	B	C	15G
C73	B	C	15H
C74	B	C	14H
C75	B	C	15G
C76	B	C	15H
C77	B	C	16H
C78	B	C	17H
C79	B	C	12N
C80	B	C	12N
C81	B	C	13N
C82	B	C	16M
C84	B	C	16L
C87	B	C	13I
C88	B	C	13J
C89	B	C	13J
C90	B	C	13J
C91	B	C	12L
C92	B	C	12N
C93	B	C	15G
C94	B	C	12O
C95	B	C	12O
C96	B	C	10O
C98	A	D	13M
C103	B	C	15G
C104	B	C	12O
C105	B	C	12O
C106	B	C	15M
C107	B	C	18H
C108	B	C	11O
C109	B	C	15M
C110	B	C	14M
C112	B	C	11N
C113	B	C	11N
C114	B	C	11O
C115	B	C	14J
C116	B	C	14I
C117	B	C	15J
C118	B	C	15J
C119	B	C	15J
C120	B	C	14J
C121	B	C	14J
C122	B	C	14J
C123	B	C	14I
C124	B	C	16I
C129	B	C	15G
C130	B	C	16G
C401	B	C	16I
C402	B	C	16J
C403	B	C	16K
C404	B	C	16J
C405	B	C	16I
C406	B	C	16J
C407	B	C	16J
C409	A	D	16J
C2001	A	D	9K
C2002	A	D	10K
C2003	A	D	12J
C2004	B	C	12J
C2005	A	D	14J
C2006	B	C	13J
C2007	A	D	13J
C2008	A	D	13K
C2009	B	C	13K
C2010	B	C	13K
C2011	A	D	14L
C2012	A	D	13L
C2013	B	C	13K
C2021	B	C	14K
C2051	B	C	18K
C2061	A	D	21F
C2062	B	C	21F
C2063	B	C	21F
C2064	A	D	21G
C2101	A	D	14K
C2102	A	D	9M
C2103	B	C	9M
C2104	B	C	9L
C2121	A	D	8L
C2201	B	C	9L
C2202	B	C	10L
C2203	A	D	8M
C2204	A	D	8M
C2205	A	D	8M
C2206	A	D	8M
C2207	A	D	8L
C2208	A	D	9K
C2209	A	D	9K
C2210	A	D	10K
C2211	A	D	8K
C2212	A	D	9K
C2213	A	D	9J
C2214	A	D	10K
C2215	A	D	10K
C2216	A	D	10J
C2217	A	D	10J
C2218	A	D	11J
C2219	A	D	10J
C2220	A	D	10I
C2221	B	C	11I
C2222	A	D	11I
C2223	A	D	11I
C2224	B	C	11J
C2225	A	D	11I
C2226	A	D	11J
C2227	B	C	12I
C2228	B	C	9I
C2229	B	C	10J
C2230	B	C	10J
C2231	B	C	10M
C2232	B	C	9I
C2233	B	C	10I
C2251	A	D	12J
C2252	B	C	12J
C2253	B	C	12I
C2254	B	C	12I
C2255	B	C	11I
C2256	A	D	13I
C2501	A	D	19D
C2502	B	C	20C
C2503	A	D	20C
C2504	B	C	19C
C2505	A	D	17B
C2506	B	C	19D
C2507	A	D	20D
C2508	B	C	19D
C2509	A	D	19D
C2510	A	D	19B
C2511	B	C	20B
C2512	B	C	20C
C2513	B	C	18B
C2518	B	C	17C
C2519	B	C	17C
C2520	B	C	17B
C2521	A	D	17B
C3001	B	C	8J
C3002	B	C	7J
C3003	A	D	7J
C3004	B	C	7H
C3007	B	C	5E
C3008	B	C	20E
C3010	A	D	1B
C3011	A	D	1B
C3012	A	D	4B
C3014	A	D	6A
C3015	B	C	8F
C3016	B	C	9D
C3017	B	C	8C
C3018	B	C	8C
C3019	B	C	8C
C3020	B	C	9C
C3021	B	C	9C
C3022	B	C	15C
C3024	B	C	11C
C3025	A	D	11C
C3026	B	C	11C
C3027	B	C	12C
C3028	B	C	10B
C3029	B	C	11B
C3030	B	C	13D
C3031	B	C	11D
C3032	B	C	11D
C3033	B	C	10F
C3034	B	C	12D
C3035	B	C	12D
C3036	B	C	12C
C3037	B	C	11C
C3038	B	C	13D
C3039	B	C	13D
C3040	A	D	8D
C3041	B	C	11C
C3042	A	D	5B
C3049	B	C	3A
C3054	B	C	12C
C3501	B	C	3C
C3502	A	D	4C
C3503	B	C	14G
C3504	B	C	4C
C3505	B	C	4C
C3602	B	C	15F
C3603	B	C	15E
C3604	B	C	15E
C3652	B	C	15C
C3653	B	C	15C
C3654	B	C	15C
C4001	A	D	6B
C4002	B	C	9E
C4003	B	C	9F
C4004	B	C	10F
C4005	B	C	9F
C4006	B	C	9F
C4007	B	C	9F
C4008	B	C	9F
C4009	B	C	9F
C4010	B	C	7E
C4011	B	C	11F
C4012	B	C	11F
C4013	B	C	10F
C4014	B	C	10F
C4015	B	C	10F
C4016	B	C	10F
C4017	B	C	9F
C5001	A	D	2O
C5002	A	D	4N
C5003	A	D	4P
C5004	A	D	1J
C5006	A	D	3M
C5101	A	D	2M
C5102	A	D	3K
C5103	A	D	1K
C5104	A	D	3L
C5105	A	D	3M
C5106	A	D	3L
C5107	A	D	1K
C5201	A	D	1G
C5202	A	D	2G
C5203	A	D	1G
C5204	A	D	4H
C5205	A	D	2H
C5206	A	D	3G
C5207	A	D	2F
C5208	A	D	1E
C5209	A	D	3G
C5211	A	D	5M
C5212	A	D	4J
C5213	A	D	1H
C5301	A	D	2D
C5302	A	D	2E
C5303	A	D	3E
C5304	A	D	3D
C5305	B	C	1G
C5306	A	D	2C
C5307	A	D	2C
C5308	A	D	2F
C5309	A	D	2E
C5310	A	D	3D
C6005	A	D	21M
C6006	B	C	22M
C6007	A	D	20M
C6008	B	C	21M
C6012	A	D	21O
C6013	B	C	22O
C6014	B	C	22P
C6016	B	C	21O
C6020	B	C	22N
C6021	B	C	22M
C6022	B	C	22N
C6023	B	C	22M
C6024	B	C	22K
C6027	B	C	21L
C6028	B	C	22L
C6032	B	C	21K
C6033	B	C	22J
C6037	B	C	22L
C6052	B	C	22O
C6053	B	C	22P
C6054	B	C	22P
C6055	B	C	22O
C6101	A	D	21B
C6519	B	C	19N
C6520	B	C	19N
C6551	A	D	22P
C6552	B	C	22O
C6553	A	D	19L
C6554	B	C	22P
C6555	B	C	19M
C7202	A	D	19O
C7251	B	C	21A
CONNECTOR			
CN1	A	D	15K
CN301	A	D	20J
CN302	A	D	18H
CN501	A	D	7O
CN502	A	D	18O
CN901	A	D	22A
CN902	A	D	21A
CN903	A	D	14P
CN904	A	D	19P
CN905	A	D	16P
CN907	A	D	8P
CN1901	A	D	22C
CN2001	A	D	14L
CN2002	A	D	20G
CN2051	A	D	18L
CN3001	A	D	6L
CN3002	A	D	8J
CN3003	A	D	8H
CN3004	A	D	10A
CN3011	A	D	3A
CN3012	A	D	2C
CN3501	A	D	14H
CN5001	A	D	1P
CN6102	A	D	21C
CN6103	A	D	21H
CN6701	A	D	18M
CN7103	A	D	22E
DIODE			
D1	B	C	19K
D3	B	C	10O
D4	A	D	14M
D5	B	C	13M
D6	A	D	7N
D7	A	D	13C
D8	A	D	12N
D9	B	C	15F
D10	B	C	7H
D2001	B	C	18I
D2121	A	D	8L
D2201	A	D	9M
D2501	A	D	20D
D3001	A	D	13D
D3002	A	D	5D
D3003	A	D	3B
D3004	A	D	4A
D3005	A	D	4A
D3006	A	D	5J
D3007	B	C	7D
D3008	B	C	7D
D3009	A	D	12B
D3011	A	D	2B
D3012	A	D	1C
D4001	B	C	11E
D4002	B	C	11F
D5001	B	C	3N
D5101	A	D	1L
D5102	A	D	2L
D5103	A	D	2K
D5104	A	D	4N
D5201	A	D	1I
D5202	A	D	4H
D5203	A	D	4I
D5204	A	D	3I
D5205	A	D	3I
D5206	A	D	2H
D5207	A	D	2H
D5208	A	D	3G
D5209	A	D	3H
D5210	A	D	4I
D5211	A	D	1I
D5212	A	D	2I
D5213	A	D	5L
D5214	A	D	4I
D5301	A	D	3H
D5302	A	D	2D
D5303	A	D	1E
D5304	A	D	1F
D5305	A	D	4G
D5306	A	D	2D
D5307	A	D	3F
D5308	A	D	2F
D5309	A	D	3C
D5310	A	D	2E
D5314	A	D	3G
D5315	A	D	5G
D5316	A	D	3F
D5317	A	D	7H
D6002	A	D	22L
D6551	A	D	22O
IC			
IC1	B	C	11L
IC2	B	C	16H
IC3	B	C	14J
IC2501	B	C	18C
IC3001	B	C	10D
IC3002	B	C	12C
IC3003	A	D	15C
IC3004	A	D	7J
IC3501	A	D	4C
IC3601	B	C	15F
IC3651	B	C	16C
IC5101	A	D	2L
IC5301	A	D	1D
IC6080	B	C	22N
COIL			
L1	A	D	13J
L2	A	D	15L
L3	A	D	14N
L4	A	D	11N
L5	A	D	9M
L11	A	D	11N
L12	A	D	11M
L13	A	D	11O
L14	A	D	12N
L15	A	D	14H
L17	A	D	15G
L18	A	D	15H
L19	A	D	15H
L20	A	D	16L
L22	A	D	12M
L24	A	D	15M
L25	A	D	18H
L26	A	D	18H
L27	A	D	12O
L28	A	D	14M
L29	A	D	14H
L401	A	D	16J
L402	A	D	19G
L2001	A	D	12J
L2251	A	D	13I
L2252	A	D	11I
L2501	A	D	17B
L3001	A	D	6J
L3011	A	D	7J
L3012	A	D	7J
L3501	A	D	3C
L5201	A	D	2G
L5202	A	D	1F
L6001	A	D	20N
L6002	A	D	21P
L6003	A	D	21O
L6004	A	D	20P
L6005	A	D	20N
L6031	B	C	21L
L6032	A	D	22J
L6050	A	D	22N
L7201	A	D	19O
TRANSISTOR			
Q1	B	C	14I
Q2	B	C	14I
Q3	B	C	14J
Q4	B	C	14J
Q5	B	C	13L
Q7	B	C	15G
Q8	B	C	15H
Q9	B	C	15H
Q10	B	C	8N
Q11	B	C	9N
Q12	B	C	8N
Q13	B	C	8N
Q14	B	C	15G
Q16	B	C	16L
Q17	B	C	16L
Q18	B	C	16M
Q21	B	C	12O
Q24	B	C	7N
Q25	B	C	9N
Q26	B	C	9N
Q28	B	C	16M
Q31	B	C	19I
Q32	B	C	13M
Q34	B	C	12N
Q35	B	C	13M
Q37	B	C	13N
Q38	B	C	15M
Q39	B	C	11O
Q40	B	C	11N
Q41	B	C	11O
Q42	B	C	7H
Q43	B	C	14E
Q401	B	C	16J
Q402	B	C	16J
Q403	B	C	16I
Q404	B	C	18F
Q405	B	C	19G
Q2001	B	C	14L
Q2002	B	C	14K
Q2003	B	C	14L
Q2004	B	C	14K
Q2011	B	C	14K
Q2052	B	C	18H
Q2053	B	C	18H
Q2054	B	C	19H
Q2061	B	C	21G
Q2062	B	C	19H
Q2102	B	C	14K
Q2103	B	C	9M
Q2104	B	C	8M
Q2105	B	C	8M
Q2106	B	C	8M
Q2107	B	C	8M
Q2108	B	C	9M
Q2251	B	C	10I
Q2252	B	C	10I
Q2501	B	C	20D
Q2502	B	C	20D
Q3001	B	C	7J
Q3002	A	D	5E
Q3003	A	D	20E
Q3004	B	C	3B
Q3005	B	C	4B
Q3007	B	C	7D
Q3009	B	C	7D
Q3501	B	C	4C
Q4001	B	C	8E
Q4002	B	C	10F
Q4003	B	C	9F
Q5101	A	D	3L
Q5102	B	C	3L
Q5103	B	C	4M
Q5301	A	D	3F
Q5302	B	C	3F
Q5303	A	D	2D
Q5304	A	D	2E
Q5305	B	C	3E
Q5306	A	D	3F
Q5310	B	C	3C
Q5311	B	C	4F
Q5312	A	D	1D
Q5318	B	C	2C
Q5320	A	D	4G
Q5321	B	C	4F
Q5322	B	C	4D
Q6030	B	C	22I
Q6031	B	C	22J
Q6032	B	C	21J
Q6501	B	C	19N
Q6502	B	C	18N
Q6551	A	D	22O
Q7201	A	D	20P
RESISTOR			
R1	B	C	14L
R2	B	C	14L
R3	B	C	15L
R4	B	C	12N
R5	B	C	12N
R6	B	C	11M
R7	B	C	10N
R8	B	C	8M
R9	B	C	8M
R21	B	C	13G
R22	B	C	13G
R23	B	C	14L
R24	B	C	14G
R25	B	C	15G
R26	B	C	14G
R27	B	C	15G
R28	B	C	14H
R29	B	C	15G
R30	B	C	15H
R31	B	C	15H
R32	B	C	15G
R33	B	C	16L
R34	B	C	16L
R35	B	C	15L
R36	B	C	8N
R37	B	C	10N
R38	B	C	10N
R39	B	C	9N
R40	B	C	8N
R41	B	C	8N
R42	B	C	8N
R43	B	C	8N
R44	B	C	7N
R45	B	C	7N
R46	B	C	12O
R47	B	C	12N
R48	B	C	12O
R51	B	C	8N
R54	B	C	15M
R61	B	C	19I
R62	B	C	16M
R65	B	C	13L
R66	B	C	13M
R68	B	C	17I
R69	B	C	13N
R70	B	C	14M
R72	B	C	12O
R73	B	C	12O
R75	B	C	14M
R76	B	C	11O
R77	B	C	13J
R79	B	C	10M
R80	B	C	12O
R81	B	C	10N
R82	B	C	16M
R84	B	C	16N
R85	B	C	16L
R88	B	C	8N
R90	B	C	14M
R91	B	C	13N
R92	B	C	15M
R93	B	C	15M
R94	B	C	9N
R98	B	C	14E
R99	B	C	15E
R104	B	C	15M
R113	B	C	13L
R114	B	C	16O
R115	B	C	7G
R117	B	C	10N
R401	B	C	16J
R402	B	C	16J
R403	B	C	16J
R404	B	C	16I
R405	B	C	16I
R406	B	C	16I
R407	B	C	19G
R408	B	C	19F
R409	B	C	15F
R2001	B	C	7L
R2002	B	C	7M
R2003	A	D	7K
R2005	A	D	9I
R2006	A	D	10I
R2007	B	C	8J
R2008	B	C	9J
R2009	B	C	10J
R2010	B	C	10K
R2011	B	C	14K
R2012	B	C	11I
R2013	B	C	13K
R2014	B	C	13K
R2015	B	C	14J
R2016	B	C	13K
R2017	B	C	13K
R2018	B	C	14K
R2019	B	C	14K
R2020	B	C	14K
R2051	B	C	18L
R2052	B	C	18L
R2053	B	C	18L
R2056	B	C	18L
R2057	B	C	18H
R2058	B	C	18H
R2059	B	C	19H
R2060	B	C	19H
R2061	B	C	21F
R2062	B	C	21F
R2063	B	C	21G
R2064	B	C	19H
R2065	B	C	18G
R2102	B	C	13K
R2103	B	C	9M
R2104	B	C	9M
R2105	B	C	9M
R2106	B	C	8M
R2107	B	C	7L
R2108	B	C	8M
R2109	B	C	8M
R2110	B	C	8M
R2111	B	C	9M
R2121	A	D	8L
R2202	B	C	8K
R2203	B	C	9K
R2204	B	C	9K
R2205	B	C	9K
R2206	A	D	7K
R2208	A	D	8K
R2209	A	D	8K
R2210	B	C	9K
R2211	B	C	9K
R2212	B	C	9J
R2213	A	D	9J
R2214	B	C	9J
R2215	B	C	10J
R2216	A	D	10J
R2217	B	C	10I
R2218	B	C	10I
R2219	A	D	9J
R2220	A	D	9J
R2221	B	C	10K
R2222	B	C	10J
R2223	B	C	10J
R2224	B	C	9J
R2225	B	C	9J
R2226	B	C	9H
R2227	B	C	9I
R2228	B	C	10L
R2229	A	D	10L
R2230	B	C	10K
R2231	A	D	9L
R2251	B	C	6L
R2252	B	C	11I
R2501	B	C	20C
R2502	B	C	20C
R2503	B	C	20C
R2504	B	C	20C
R2505	B	C	19C
R2506	B	C	20D
R2507	B	C	19D
R2508	B	C	19D
R2509	B	C	19B
R2510	B	C	20B
R2511	B	C	19C
R2512	B	C	19B
R2513	B	C	19B
R2514	B	C	20C
R2519	B	C	18D
R2520	B	C	20D
R2522	B	C	17C
R3011	A	D	8F
R3012	B	C	8F
R3013	B	C	8F
R3014	B	C	8F
R3015	B	C	8E
R3016	A	D	7F
R3017	A	D	8F
R3018	A	D	7F
R3019	A	D	7F
R3020	B	C	7F
R3021	B	C	7F
R3022	B	C	8E
R3025	B	C	7E
R3026	B	C	7E
R3027	B	C	7E
R3029	B	C	8E
R3030	B	C	8E
R3031	B	C	8D
R3032	B	C	8D
R3033	B	C	8D
R3034	B	C	8D
R3035	B	C	7D
R3036	B	C	7D
R3038	B	C	8D
R3039	B	C	8D
R3040	B	C	8D
R3041	B	C	8D
R3042	B	C	9D
R3044	A	D	8C
R3046	A	D	8C
R3047	A	D	8C
R3048	A	D	8C
R3049	B	C	9C
R3050	B	C	9C
R3051	B	C	9C
R3052	B	C	9C
R3053	B	C	9C
R3054	B	C	10C
R3055	B	C	9C
R3056	B	C	10C
R3057	B	C	10B
R3058	B	C	10C
R3059	B	C	10C
R3060	B	C	10C
R3061	B	C	11C
R3062	B	C	11C
R3063	B	C	11C
R3066	B	C	11C
R3069	B	C	11C
R3071	B	C	12C
R3072	B	C	13C
R3073	B	C	13C
R3074	B	C	13C
R3075	B	C	12C
R3076	B	C	12C
R3077	B	C	12D
R3078	B	C	12D
R3079	B	C	12D
R3080	B	C	12D
R3081	B	C	12D
R3083	B	C	12D
R3085	B	C	12D
R3086	B	C	12E
R3087	B	C	13D
R3088	B	C	12E
R3089	B	C	12E
R3090	B	C	12E
R3091	B	C	12E
R3092	B	C	12E
R3093	B	C	12E
R3094	A	D	12E
R3095	A	D	12F
R3096	A	D	12F
R3097	B	C	12F
R3103	B	C	11F
R3105	B	C	11E
R3106	B	C	11F
R3201	B	C	8J
R3202	B	C	7I
R3203	B	C	7J
R3204	B	C	6H
R3205	A	D	14C
R3206	A	D	5C
R3207	B	C	16A
R3208	B	C	17A
R3209	B	C	17A
R3210	B	C	9B
R3211	B	C	9C
R3212	B	C	5D
R3213	B	C	8D
R3214	B	C	10A
R3215	B	C	7A
R3216	B	C	10A
R3217	B	C	7D
R3218	A	D	4D
R3219	B	C	2B
R3220	B	C	7C
R3222	B	C	4A
R3223	B	C	15C
R3224	B	C	15C
R3225	B	C	7A
R3229	B	C	11C
R3230	B	C	12C
R3231	B	C	12C
R3233	B	C	7D
R3234	B	C	7D
R3235	B	C	8C
R3236	B	C	8C
R3237	B	C	2B
R3238	A	D	2B
R3239	B	C	2B
R3241	B	C	3A
R3242	B	C	8F
R3243	B	C	4A
R3244	B	C	2B
R3245	B	C	9F
R3246	B	C	7E
R3247	B	C	7E
R3251	B	C	3A
R3252	B	C	8F
R3501	B	C	4C
R3502	B	C	4C
R3503	B	C	4C
R3504	B	C	4C
R3505	B	C	4C
R3506	B	C	4C
R3671	B	C	16C
R3672	B	C	16C
R3673	B	C	16C
R4001	B	C	12F
R4003	B	C	10F
R4004	B	C	10F
R4005	B	C	9F
R4007	B	C	8F
R4008	B	C	8E
R4009	B	C	11E
R4010	B	C	12F
R4011	B	C	11F
R4012	B	C	11F
R4013	B	C	10F
R4014	B	C	11F
R4015	B	C	11F
R4016	B	C	11E
R4017	B	C	10F
R4018	B	C	10F
R4019	B	C	11F
R4020	B	C	10G
R4021	B	C	10G
R5001	A	D	4P
R5101	A	D	4N
R5102	A	D	2K
R5103	B	C	2L
R5104	A	D	1L
R5105	A	D	2L
R5106	B	C	3K
R5107	A	D	4M
R5108	A	D	3M
R5109	A	D	3L
R5110	B	C	3L
R5301	A	D	1C
R5302	B	C	3F
R5303	B	C	4E
R5304	A	D	1G
R5305	B	C	5L
R5306	B	C	3D
R5307	B	C	1G
R5308	B	C	3F
R5309	A	D	3F
R5310	B	C	2F
R5311	B	C	2F
R5313	A	D	1C
R5314	B	C	2C
R5317	B	C	4E
R5318	B	C	3F
R5319	A	D	2C
R5321	A	D	3E
R5322	B	C	3E
R5323	B	C	3F
R5326	B	C	3D
R5327	B	C	3D
R5328	B	C	5M
R5329	B	C	4D
R5330	B	C	4D
R5332	B	C	5B
R5333	A	D	4H
R5334	A	D	5I
R5335	B	C	5G
R5336	B	C	4F
R6020	B	C	21N
R6021	B	C	21N
R6022	B	C	21N
R6025	B	C	21N
R6030	B	C	22J
R6031	B	C	22J
R6032	B	C	21L
R6033	B	C	21J
R6034	B	C	22J
R6038	B	C	22L
R6050	B	C	21O
R6051	B	C	21O
R6052	B	C	21O
R6053	B	C	22N
R6060	B	C	22N
R6061	B	C	22N
R6508	B	C	19N
R6509	B	C	19N
R6510	B	C	19N
R6511	B	C	19N
R6551	A	D	22O
R6552	B	C	22O
R6553	A	D	20O
R6554	A	D	20N
R6601	B	C	18M
R7202	B	C	20O
R7203	B	C	20O
R7204	A	D	19P
R7251	B	C	21A
R7252	B	C	21A
R7253	B	C	21A
TESTPOINT			
TP106	A	D	6M
TP111	A	D	6M
TP2253	A	D	6L
TP3901	B	C	9C
TP3902	B	C	8C
TP3903	B	C	11C
TP3904	B	C	12C
TP3905	B	C	11C
TP3906	B	C	10C
TP3907	B	C	10C
TP3908	B	C	10C
TP4001	A	D	6M
OTHER			
CF2501	A	D	17D
CF6031	A	D	22J
CP3002	A	D	6H
CP4001	A	D	5K
CP5301	A	D	2D
CP5302	A	D	4H
CP5303	A	D	4E
F5001	A	D	1P
FC5001	A	D	1P
FC5002	A	D	1N
K2251	B	C	12J
K2252	B	C	12I
K2253	B	C	12J
K5101	A	D	2L
K5102	A	D	1M
K5201	A	D	3G
LC2501	A	D	17B
LF5001	A	D	2P
LF5002	A	D	5O
LPF2501	A	D	20C
PC3001	A	D	17A
PC3002	A	D	9C
PC5101	A	D	4L
PC5102	A	D	5M
S3002	A	D	7A
SG5001	A	D	2P
T2052	A	D	21F
T5001	A	D	2J
TU6001	A	D	21P
VA5001	A	D	2P
VA5002	A	D	4P
VA5003	A	D	2P
WR1	A	D	16G
WR2	A	D	7G
WR3	A	D	7G
WR4	A	D	7G
WR11	A	D	7E
WR15	A	D	21J
WR16	A	D	21J
WR17	A	D	21P
WR18	A	D	22Q
WR101	A	D	14J
WR901	A	D	21A
WR3001	A	D	12C
X1	A	D	10N
X2	A	D	10M
X3001	A	D	11C
X3002	A	D	11C

4.16 MAIN, AUDIO ERASE, A/C HEAD AND LOADING MOTOR CIRCUIT BOARDS

<03>MAIN
LPB10106-001D

DANGEROUS VOLTAGE


PRIMARY
REG
TERMINAL
A/V
TUNER
SYSCON
VSC
P
O
N
M
L
K
J
I
H
G
F
E
D
C
B
A
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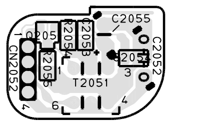
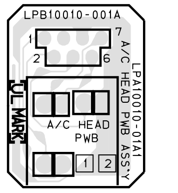
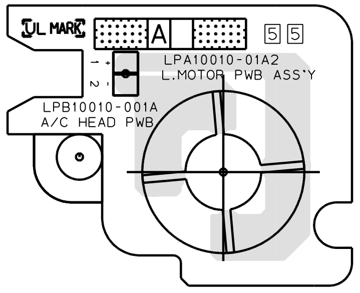
<46>AUDIO ERASE
LPB10106-001D



<12>AC/HEAD
LPB10010-001A

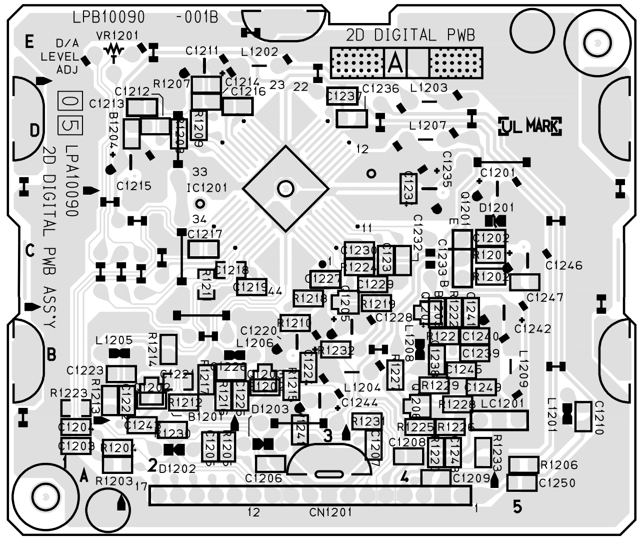

LPB10010-001A
A/C HEAD PWB

<55>LOADING MOTOR
LPB10010-001A


LPA10010-01A2
L.MOTOR PWB ASS'Y
LPB10010-001A
A/C HEAD PWB

4.17 2D DIGITAL CIRCUIT BOARD [HR-S6700MS]

<05>2D DIGITAL
LPB10090-001B

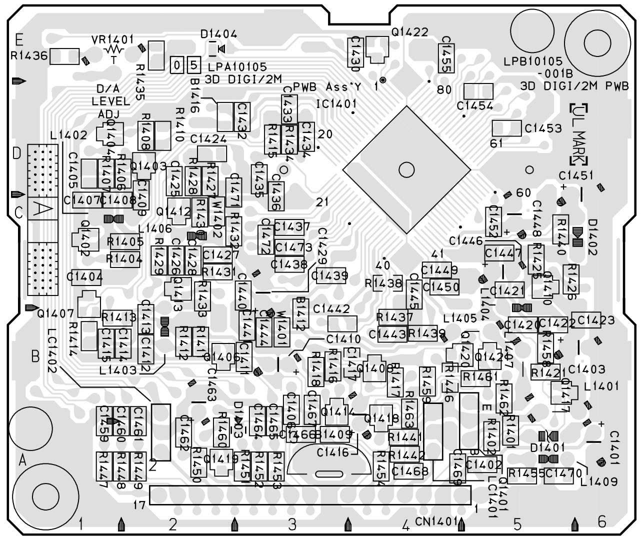


COMPONENT PARTS LOCATION GUIDE <2D DIGITAL>

REF.NO.	LOCATION		
CAPACITOR			
C1201	A	D	5D
C1202	B	C	5C
C1203	B	C	1A
C1204	B	C	1A
C1205	B	C	2A
C1206	B	C	3A
C1207	B	C	4A
C1208	B	C	4A
C1209	B	C	4A
C1210	B	C	6B
C1211	A	D	2E
C1212	B	C	2D
C1213	B	C	2D
C1214	B	C	2D
C1215	A	D	2D
C1216	B	C	3D
C1217	B	C	2C
C1218	B	C	2C
C1219	B	C	3C
C1220	A	D	3B
C1221	B	C	2B
C1222	B	C	2B
C1223	B	C	2B
C1224	B	C	3B
C1225	B	C	3B
C1226	B	C	2B
C1227	B	C	3C
C1228	A	D	3B
C1229	B	C	4C
C1230	B	C	4C
C1231	B	C	4C
C1232	B	C	4C
C1233	A	D	4C
C1234	B	C	4D
C1235	A	D	4D
C1236	B	C	4D
C1237	B	C	3D
C1238	B	C	4B
C1239	B	C	5B
C1240	B	C	5B
C1241	B	C	5B
C1242	A	D	5B
C1243	B	C	2A
C1244	A	D	3B
C1245	B	C	5B
C1246	A	D	5C
C1247	B	C	5C
C1248	B	C	4A
C1249	B	C	5B
C1250	B	C	5A
CONNECTOR			
CN1201	A	D	5A
DIODE			
D1201	A	D	5C
D1202	A	D	2A
D1203	A	D	3A
IC			
IC1201	B	C	3D
COIL			
L1201	A	D	5A
L1202	A	D	3E
L1203	A	D	4D
L1204	A	D	4B
L1205	A	D	2B
L1206	A	D	3B
L1207	A	D	4D
L1208	A	D	4B
L1209	A	D	5B
TRANSISTOR			
Q1201	A	D	5C
Q1202	B	C	2B
Q1203	B	C	3B
Q1204	B	C	4B
Q1205	B	C	3C
Q1206	B	C	4B
RESISTOR			
R1201	B	C	5C
R1202	B	C	5C
R1203	B	C	1A
R1204	B	C	1A
R1205	B	C	2A
R1206	B	C	5A
R1207	B	C	2D
R1208	B	C	2D
R1209	B	C	2D
R1210	B	C	3B
R1211	B	C	2C
R1212	B	C	2B
R1213	B	C	1B
R1214	B	C	2B
R1215	B	C	3B
R1216	B	C	2B
R1217	B	C	2B
R1218	B	C	3C
R1219	B	C	4C
R1220	B	C	4A
R1221	B	C	4B
R1222	B	C	4B
R1223	B	C	1B
R1224	B	C	4C
R1225	B	C	4A
R1226	B	C	4A
R1227	B	C	4B
R1228	B	C	4B
R1229	B	C	4B
R1230	B	C	2A
R1231	B	C	4B
R1232	B	C	3B
R1233	B	C	5A
VR1201	A	D	1E
OTHER			
LC1201	A	D	5B

4.18 3D DIGITAL/2M CIRCUIT BOARD [HR-S7700MS]

<05>3D DIGITAL/2M
LPB10105-001B

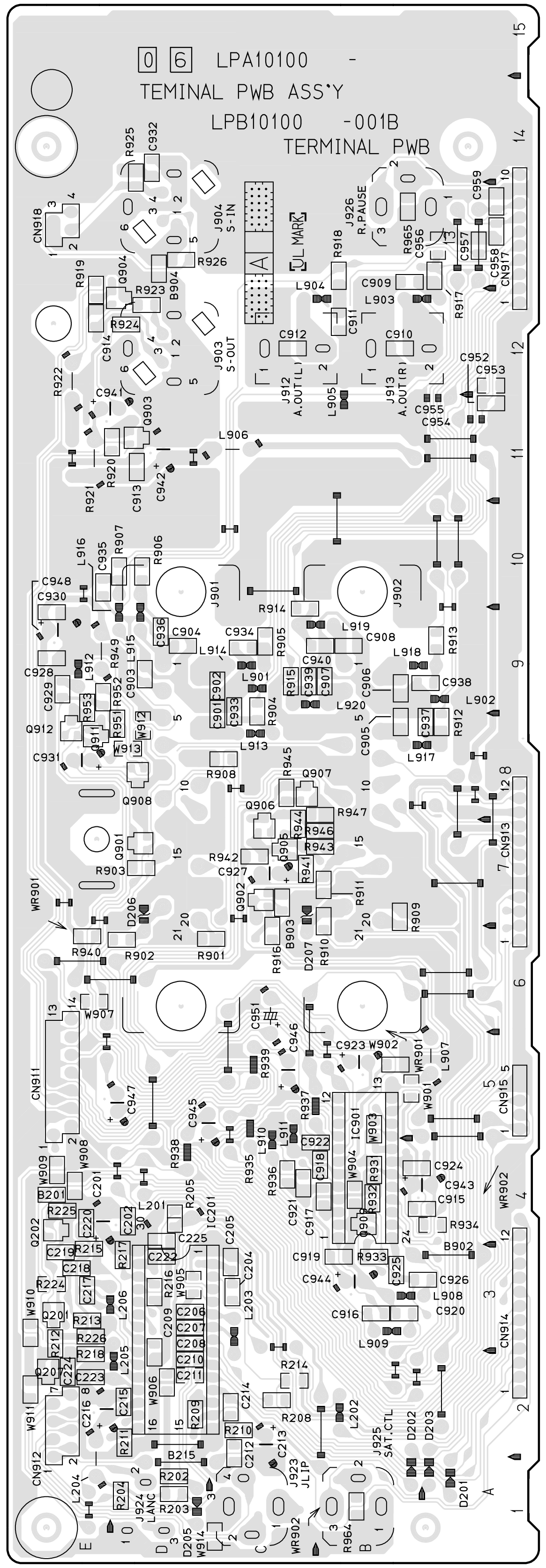


COMPONENT PARTS LOCATION GUIDE <3D DIGITAL/2M>

REF.NO.	LOCATION		
CAPACITOR			
C1401	A	D	6A
C1402	B	C	5A
C1403	A	D	5B
C1404	B	C	1C
C1405	B	C	1D
C1406	B	C	3B
C1407	B	C	1C
C1408	B	C	1C
C1409	B	C	2C
C1410	A	D	3B
C1411	B	C	3B
C1412	B	C	2B
C1413	B	C	2B
C1414	B	C	2B
C1415	B	C	1B
C1416	A	D	4A
C1417	B	C	4B
C1420	B	C	5B
C1421	B	C	5C
C1422	B	C	5B
C1423	B	C	6B
C1424	B	C	2D
C1425	B	C	2D
C1426	B	C	2C
C1427	B	C	2C
C1428	B	C	2C
C1429	A	D	3C
C1430	B	C	4E
C1432	B	C	3D
C1433	B	C	3D
C1434	B	C	3D
C1435	B	C	3D
C1436	B	C	3C
C1437	B	C	3C
C1438	B	C	3C
C1439	B	C	3C
C1440	B	C	3C
C1441	B	C	3B
C1442	B	C	3B
C1443	B	C	4B
C1444	B	C	3B
C1445	B	C	4C
C1446	A	D	5C
C1447	B	C	5C
C1448	A	D	5C
C1449	B	C	4C
C1450	B	C	4C
C1451	A	D	5D
C1452	B	C	5C
C1453	B	C	5D
C1454	B	C	5D
C1455	B	C	4E
C1459	B	C	1B
C1460	B	C	2B
C1461	B	C	2B
C1462	B	C	2A
C1463	A	D	2B
C1464	B	C	3B
C1465	B	C	3B
C1466	B	C	3A
C1467	B	C	3B
C1468	B	C	4A
C1469	B	C	4A
C1470	B	C	5A
C1471	B	C	2D
C1472	B	C	3C
C1473	B	C	3C
CONNECTOR			
CN1401	A	D	5A
DIODE			
D1401	A	D	5A
D1402	A	D	6C
D1403	B	C	3B
D1404	B	C	2E
IC			
IC1401	B	C	4D
COIL			
L1401	A	D	5B
L1402	A	D	2C
L1403	A	D	2B
L1404	A	D	5C
L1405	A	D	4B
L1406	A	D	2C
L1407	A	D	5B
L1409	A	D	5A
TRANSISTOR			
Q1401	A	D	5B
Q1402	B	C	1C
Q1403	B	C	2D
Q1404	B	C	1D
Q1406	B	C	2B
Q1407	B	C	1C
Q1408	B	C	4B
Q1410	B	C	5C
Q1412	B	C	2C
Q1413	B	C	2C
Q1414	B	C	3B
Q1417	B	C	5B
Q1418	B	C	4B
Q1419	B	C	2A
Q1420	B	C	4B
Q1421	B	C	5B
Q1422	B	C	4E
RESISTOR			
R1401	B	C	5A
R1402	B	C	5A
R1404	B	C	2C
R1405	B	C	2C
R1406	B	C	2D
R1407	B	C	1D
R1408	B	C	2D
R1410	B	C	2D
R1411	B	C	2B
R1412	B	C	2B
R1413	B	C	1B
R1414	B	C	1B
R1415	B	C	3D
R1416	B	C	3B
R1417	B	C	4B
R1418	B	C	3B
R1421	B	C	5B
R1425	B	C	5C
R1426	B	C	5C
R1427	B	C	2D
R1428	B	C	2D
R1429	B	C	2C
R1430	B	C	2C
R1431	B	C	2C
R1432	B	C	2C
R1433	B	C	2C
R1434	B	C	3D
R1435	B	C	2E
R1436	B	C	1E
R1437	B	C	4B
R1438	B	C	4C
R1439	B	C	4B
R1440	B	C	5C
R1441	B	C	4A
R1442	B	C	4A
R1446	B	C	4B
R1447	B	C	1A
R1448	B	C	2A
R1449	B	C	2A
R1450	B	C	2A
R1451	B	C	3A
R1452	B	C	3A
R1453	B	C	3A
R1454	B	C	4A
R1455	B	C	5A
R1458	B	C	5B
R1459	B	C	4B
R1460	B	C	2A
R1461	B	C	5B
R1462	B	C	5B
R1463	B	C	4B
VR1401	A	D	1E
OTHER			
LC1401	A	D	4A
LC1402	A	D	2A

4.19 TERMINAL CIRCUIT BOARD

<06>TERMINAL
LPB10100-001B



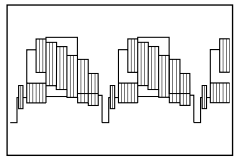
COMPONENT PARTS LOCATION GUIDE <TERMINAL>

REF.NO.	LOCATION		
CAPACITOR			
C201	A	D	4E
C202	B	C	4D
C204	B	C	3C
C205	B	C	3C
C206	B	C	3D
C207	B	C	3D
C208	B	C	3D
C209	B	C	2D
C210	B	C	2D
C211	B	C	2D
C212	B	C	2C
C213	A	D	2C
C214	B	C	2C
C215	B	C	2D
C216	A	D	2E
C217	B	C	3E
C218	B	C	3E
C219	B	C	3E
C220	B	C	4E
C222	B	C	3D
C223	B	C	2E
C224	B	C	2E
C225	B	C	4D
C901	B	C	8D
C902	B	C	9D
C903	B	C	9D
C904	B	C	9D
C905	B	C	8B
C906	B	C	9B
C907	B	C	9C
C908	B	C	9B
C909	B	C	13B
C910	B	C	12B
C911	B	C	12B
C912	B	C	12C
C913	B	C	11D
C914	B	C	12E
C915	B	C	4B
C916	B	C	3B
C917	B	C	4C
C918	B	C	4C
C919	B	C	3B
C920	B	C	3B
C921	B	C	4C
C922	B	C	4C
C923	A	D	5B
C924	B	C	4B
C925	B	C	3B
C926	B	C	3B
C927	A	D	7C
C928	B	C	9E
C929	B	C	9E
C930	B	C	9E
C931	A	D	8E
C932	B	C	14D
C933	B	C	9C
C934	B	C	9C
C935	B	C	10E
C936	B	C	9D
C937	B	C	8B
C938	B	C	9B
C939	B	C	9C
C940	B	C	9C
C941	A	D	11E
C942	A	D	11D
C943	A	D	4B
C944	A	D	3B
C945	A	D	5D
C946	A	D	5C
C947	A	D	5D
C948	A	D	9E
C951	A	D	5C
C952	B	C	11A
C953	B	C	12A
C954	A	D	11A
C955	A	D	11A
C956	B	C	13A
C957	B	C	13A
C958	B	C	13A
C959	B	C	13A
CONNECTOR			
CN911	A	D	5E
CN912	A	D	2E
CN913	A	D	6A
CN914	A	D	2A
CN915	A	D	5A
CN917	A	D	12A
CN918	A	D	13E
DIODE			
D201	A	D	1A
D202	A	D	1B
D203	A	D	1B
D205	A	D	1D
D206	A	D	7D
D207	A	D	7C
IC			
IC201	A	D	3D
IC901	A	D	4B
JACK			
J901	A	D	8D
J902	A	D	8B
J903	A	D	12D
J904	A	D	13D
J912	A	D	12C
J913	A	D	12B
J923	A	D	1C
J924	A	D	1D
J925	A	D	1B
J926	A	D	13B
COIL			
L201	A	D	4D
L202	A	D	2B
L203	A	D	3C
L204	A	D	2E
L205	A	D	3E
L206	A	D	3E
L901	A	D	9C
L902	A	D	9B
L903	A	D	12A
L904	A	D	12B
L905	A	D	12B
L906	A	D	11C
L907	A	D	5B
L908	A	D	3B
L909	A	D	3B
L910	A	D	4C
L911	A	D	5C
L912	A	D	9E
L913	A	D	8C
L914	A	D	9C
L915	A	D	10D
L916	A	D	10D
L917	A	D	8A
L918	A	D	9A
L919	A	D	9B
L920	A	D	9B
TRANSISTOR			
Q201	B	C	3E
Q202	B	C	4E
Q207	B	C	2E
Q901	B	C	7D
Q902	B	C	7C
Q903	B	C	11D
Q904	B	C	12D
Q905	B	C	7C
Q906	B	C	7C
Q907	B	C	8C
Q908	B	C	8D
Q909	B	C	4B
Q911	B	C	8E
Q912	B	C	8E
RESISTOR			
R202	B	C	1D
R203	B	C	1D
R204	B	C	1D
R205	B	C	4D
R208	B	C	2C
R209	B	C	2D
R210	B	C	2C
R211	B	C	2D
R212	B	C	3E
R213	B	C	3E
R214	B	C	2C
R215	B	C	3E
R216	B	C	3D
R217	B	C	3D
R218	B	C	2E
R224	B	C	3E
R225	B	C	4E
R226	B	C	3E
R901	B	C	6D
R902	B	C	6D
R903	B	C	7D
R904	B	C	9C
R905	B	C	9C
R906	B	C	10D
R907	B	C	10D
R908	B	C	8C
R909	B	C	7B
R910	B	C	7C
R911	B	C	7C
R912	B	C	8A
R913	B	C	9A
R914	B	C	9C
R915	B	C	9C
R916	B	C	6C
R917	B	C	13A
R918	B	C	13B
R919	B	C	12E
R920	B	C	11E
R921	A	D	11E
R922	A	D	11E
R923	B	C	12D
R924	B	C	12D
R925	B	C	14D
R926	B	C	13D
R931	B	C	4B
R932	B	C	4B
R933	B	C	3B
R934	B	C	4B
R935	A	D	5C
R936	B	C	4C
R937	A	D	5C
R938	A	D	4D
R939	A	D	5C
R940	B	C	6E
R941	B	C	7C
R942	B	C	7C
R943	B	C	7C
R944	B	C	7C
R945	B	C	8C
R946	B	C	7C
R947	B	C	8C
R949	A	D	9E
R951	B	C	8D
R952	B	C	9E
R953	B	C	9E
R964	B	C	1B
R965	B	C	13B
OTHER			
WR901	A	D	5B
WR902	A	D	4A

WAVEFORMS

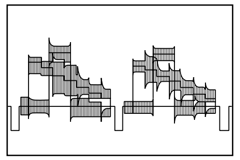
— TERMINAL —

WF1-1 IC201-21 CV_IN



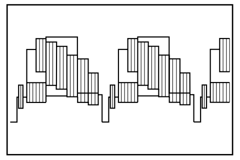
PAL REC/PB 2.2 Vp-p
50 mV/20 µsec/DIV

WF1-2 IC201-21 CV_IN



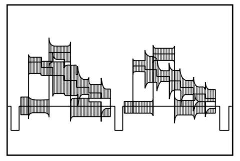
SECAM REC/PB 2.3 Vp-p
50 mV/20 µsec/DIV

WF2-1 IC201-19 CVOUT



PAL REC/PB 2.2 Vp-p
50 mV/20 µsec/DIV

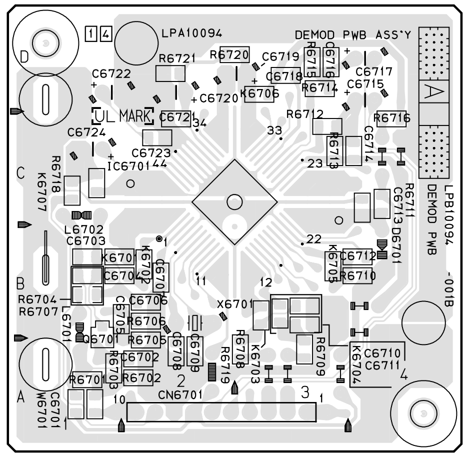
WF2-2 IC201-19 CVOUT



SECAM REC/PB 2.3 Vp-p
50 mV/20 µsec/DIV

4.20 DEMODULATOR CIRCUIT BOARD

<14>DEMODULATOR
LPB10094-001B

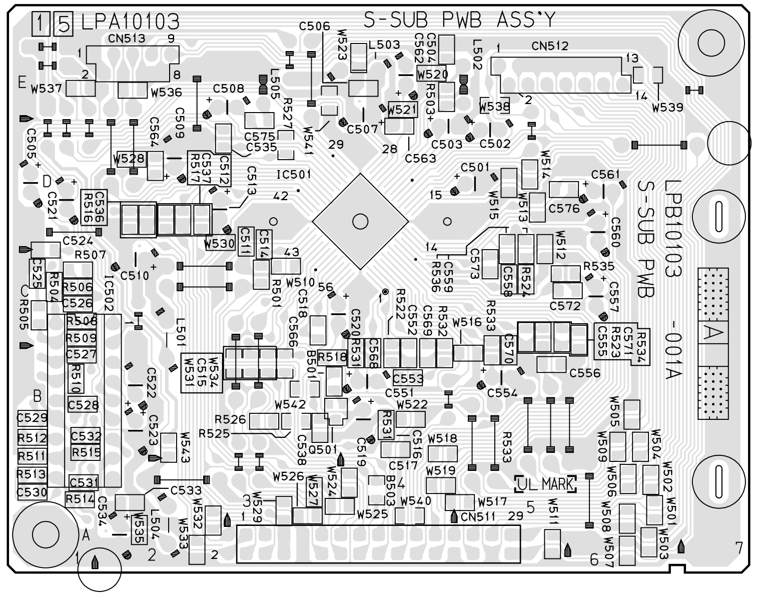


COMPONENT PARTS LOCATION GUIDE
<DEMODULATOR>

REF.NO.	LOCATION		
CAPACITOR			
C6701	B	C	1A
C6702	B	C	2A
C6703	B	C	1B
C6704	B	C	1B
C6705	B	C	2B
C6706	B	C	2B
C6707	B	C	2B
C6708	B	C	2A
C6709	B	C	2A
C6710	B	C	3B
C6711	B	C	3B
C6712	B	C	4B
C6713	B	C	4C
C6714	B	C	4C
C6715	A	D	4D
C6716	B	C	3D
C6717	A	D	4D
C6718	B	C	3D
C6719	A	D	3D
C6720	A	D	2D
C6721	B	C	2C
C6722	A	D	1D
C6723	B	C	2C
C6724	A	D	1C
CONNECTOR			
CN6701	A	D	3A
DIODE			
D6701	A	D	4B
IC			
IC6701	B	C	3C
COIL			
L6701	A	D	1A
L6702	A	D	1C
TRANSISTOR			
Q6701	B	C	1B
RESISTOR			
R6701	B	C	1A
R6702	B	C	2A
R6703	B	C	1A
R6704	B	C	1B
R6705	B	C	2A
R6706	B	C	2B
R6707	B	C	1B
R6708	B	C	3A
R6709	B	C	3A
R6710	B	C	4B
R6711	B	C	4C
R6712	B	C	3C
R6713	B	C	3C
R6714	B	C	3D
R6715	B	C	3D
R6716	B	C	4C
R6718	B	C	1C
R6719	A	D	2A
R6720	B	C	3D
R6721	B	C	2D
OTHER			
K6701	B	C	1B
K6702	B	C	2B
K6703	B	C	3B
K6704	B	C	3B
K6705	B	C	3B
K6706	B	C	3D
K6707	B	C	1C
X6701	A	D	2B

4.21 S-SUB CIRCUIT BOARD

<15>S-SUB
LPB10103-001A

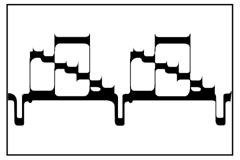


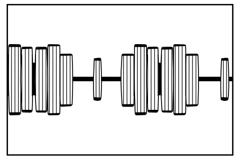
COMPONENT PARTS LOCATION GUIDE
<S-SUB>

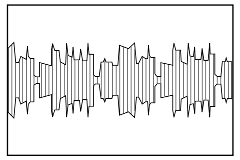
REF.NO.	LOCATION		
CAPACITOR			
C501	A	D	5D
C502	A	D	5D
C503	A	D	4D
C504	B	C	4E
C505	A	D	1D
C506	B	C	4E
C507	A	D	4E
C508	A	D	2E
C509	A	D	2D
C510	A	D	2C
C511	B	C	3C
C512	B	C	2D
C513	A	D	2D
C514	B	C	3C
C515	B	C	3B
C516	B	C	4B
C517	B	C	4B
C518	B	C	3C
C519	A	D	4B
C520	A	D	3C
C521	A	D	1D
C522	A	D	2B
C523	A	D	2B
C524	B	C	1C
C525	B	C	1C
C526	B	C	1C
C527	B	C	1B
C528	B	C	1B
C529	B	C	1B
C530	B	C	1A
C531	B	C	1A
C532	B	C	1B
C533	B	C	2A
C534	A	D	2A
C535	B	C	2D
C536	B	C	2D
C537	B	C	2D
C538	B	C	3B
C551	A	D	4B
C552	B	C	4B
C553	B	C	4B
C554	A	D	5B
C555	B	C	5C
C556	B	C	5B
C557	A	D	6C
C558	B	C	5C
C559	B	C	5C
C560	A	D	6D
C561	A	D	6D
C562	A	D	4E
C563	B	C	4D
C564	B	C	2D
C566	B	C	3B
C568	B	C	4B
C569	B	C	4B
C570	B	C	5B
C571	B	C	5C
C572	B	C	6C
C573	B	C	5C
C575	B	C	3D
C576	B	C	5D
CONNECTOR			
CN511	A	D	3A
CN512	A	D	5E
CN513	A	D	1E
IC			
IC501	B	C	4D
IC502	A	D	1C
COIL			
L501	A	D	2B
L502	A	D	5E
L503	A	D	3E
L504	A	D	2A
L505	A	D	3E
TRANSISTOR			
Q501	B	C	3B
RESISTOR			
R501	B	C	3C
R503	B	C	4E
R504	B	C	1C
R505	B	C	1C
R506	B	C	1C
R507	B	C	1C
R508	B	C	1C
R509	B	C	1C
R510	B	C	1B
R511	B	C	1B
R512	B	C	1B
R513	B	C	1A
R514	B	C	1A
R515	B	C	1B
R516	B	C	2D
R517	B	C	2D
R518	B	C	3B
R522	B	C	4B
R523	B	C	5C
R524	B	C	5C
R525	B	C	3B
R526	B	C	3B
R527	B	C	3D
R531	B	C	4B
R532	B	C	4B
R533	B	C	5B
R534	B	C	6C
R535	B	C	5C
R536	B	C	5C

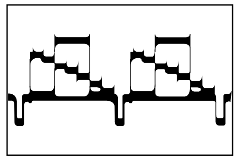
WAVEFORMS

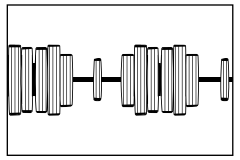
— S-SUB —

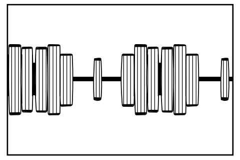
WF1 IC501-9

REC 1.0 Vp-p
20 mV/20 µsec/DIV

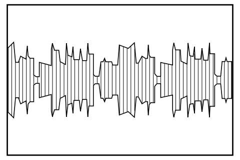
WF2-1 IC501-11

PAL REC 0.65 Vp-p
20 mV/20 µsec/DIV

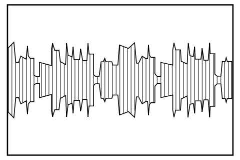
WF2-2 IC501-11

SECAM REC 0.54 Vp-p
10 mV/20 µsec/DIV

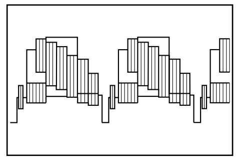
WF3 IC501-15

REC/PB 2.1 Vp-p
50 mV/20 µsec/DIV

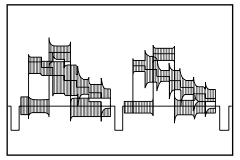
WF4-1 IC501-17

PAL REC 1.3 Vp-p
50 mV/20 µsec/DIV

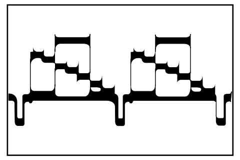
WF4-2 IC501-17

PAL PB 1.5 Vp-p
50 mV/20 µsec/DIV

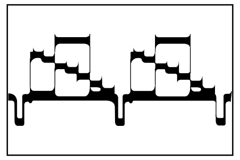
WF4-3 IC501-17

SECAM REC 0.92 Vp-p
20 mV/20 µsec/DIV

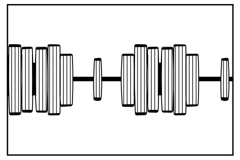
WF4-4 IC501-17

SECAM PB 0.84 Vp-p
20 mV/20 µsec/DIV

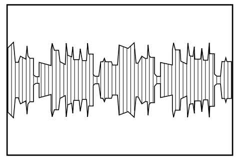
WF5-1 IC501-19

PAL REC/PB 2.2 Vp-p
50 mV/20 µsec/DIV

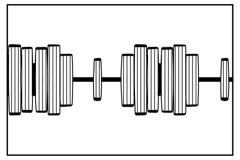
WF5-2 IC501-19

SECAM REC/PB 2.4 Vp-p
50 mV/20 µsec/DIV

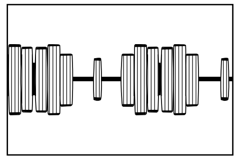
WF6 IC501-29

REC/PB 0.52 Vp-p
10 mV/20 µsec/DIV

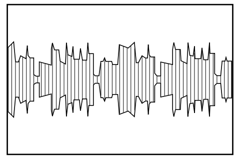
WF7 IC501-31

PB 0.5 Vp-p
10 mV/20 µsec/DIV

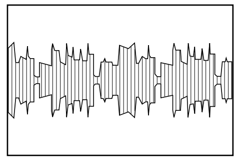
WF8-1 IC501-33

PAL REC 0.64 Vp-p
20 mV/20 µsec/DIV

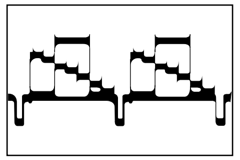
WF8-2 IC501-33

SECAM REC 0.46 Vp-p
10 mV/20 µsec/DIV

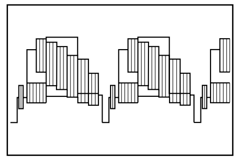
WF9-1 IC501-42

PAL REC 0.5 Vp-p
10 mV/20 µsec/DIV

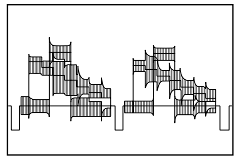
WF9-2 IC501-42

PAL PB 0.8 Vp-p
20 mV/20 µsec/DIV

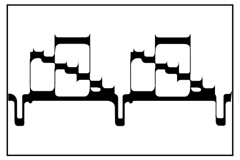
WF9-3 IC501-42

SECAM REC 0.36 Vp-p
10 mV/20 µsec/DIV

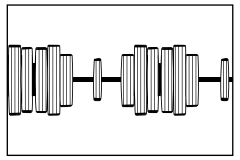
WF9-4 IC501-42

SECAM PB 0.46 Vp-p
10 mV/20 µsec/DIV

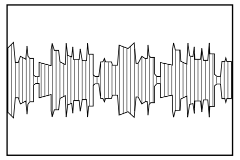
WF10 IC501-43

REC/PB 0.72 Vp-p
20 mV/20 µsec/DIV

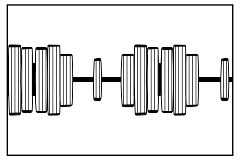
WF11-1 IC501-45

PAL REC 1.7 Vp-p
50 mV/20 µsec/DIV

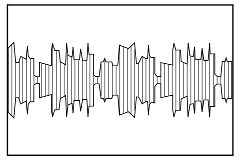
WF11-2 IC501-45

SECAM REC 1.8 Vp-p
50 mV/20 µsec/DIV

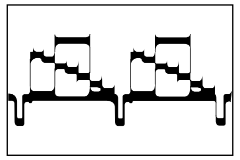
WF11-3 IC501-45

REC/PB 1.7 Vp-p
50 mV/20 µsec/DIV

WF12-1 IC501-47

PAL PB 1.3 Vp-p
50 mV/20 µsec/DIV

WF12-2 IC501-47

SECAM PB 0.9 Vp-p
50 mV/20 µsec/DIV

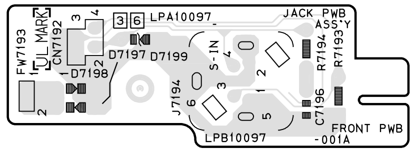
WF13 IC501-48

PAL PB 0.6 Vp-p
20 mV/20 µsec/DIV

WF14 IC501-50

SECAM PB 0.38 Vp-p
20 mV/20 µsec/DIV

WF15 IC501-56

PB 2.2 Vp-p
50 mV/20 µsec/DIV

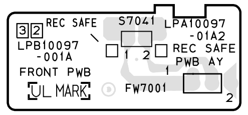
4.22 SW/DISPLAY, REC SAFETY, JACK AND SHUTTLE/PLAY CIRCUIT BOARDS [HR-S6700MS]

<36>JACK
LPB10097-001A



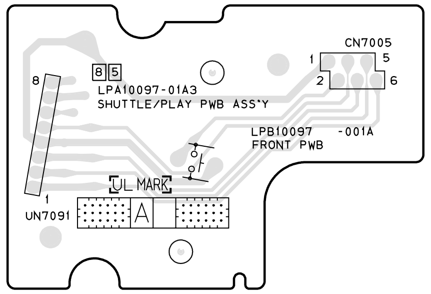
FW7193
CN7192
UL MARK
D7198
D7197
D7199
36
LPA10097
JACK PWB ASS'Y
S-IN
J7194
C7196
R7194
R7193
FRONT PWB -001A
LPB10097

<32>REC SAFETY
LPB10097-001A



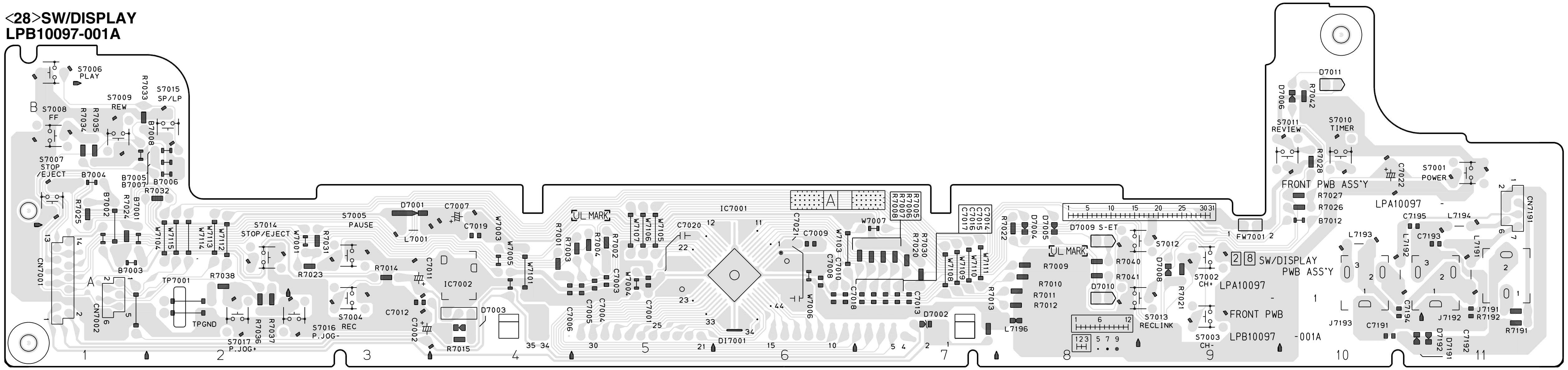
32
REC SAFE
S7041
LPA10097 -01A2
LPB10097 -001A
REC SAFE PWB AY
FRONT PWB
UL MARK
FW7001

<85>SHUTTLE/PLAY
LPB10097-001A



CN7005
85
LPA10097-01A3
SHUTTLE/PLAY PWB ASS'Y
LPB10097 -001A
FRONT PWB
UL MARK
UN7091
A

<28>SW/DISPLAY
LPB10097-001A



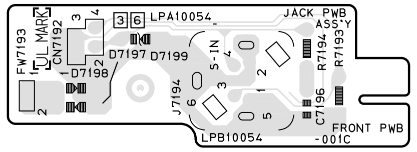
S7006 PLAY
S7015 SP/LP
S7009 REW
S7008 FF
R7033
R7035
R7034
B7008
S7007 STOP /EJECT
B7004
B7005
B7007
B7006
R7032
R7025
B7002
R7024
B7001
W7104
W7115
W7113
W7114
W7112
CN7001
CN7002
B7003
TP7001
TPGND
R7038
S7014 STOP/EJECT
S7005 PAUSE
D7001
C7007
C7019
W7003
W7001
R7031
L7001
R7023
R7014
C7011
IC7002
C7012
C7002
S7004 REC
S7016 P.JOG-
S7017 P.JOG+
R7036
R7037
R7015
D7003
W7005
W7101
UL MARK
R7001
R7003
R7004
R7002
C7003
C7004
C7005
C7006
W7107
W7106
W7105
C7020
C7001
IC7001
DI7001
A
R7005
R7006
R7007
R7008
C7021
C7009
W7007
W7103
C7010
C7008
W7006
C7018
C7013
R7030
R7020
W7108
W7109
W7110
W7111
R7013
C7014
C7015
C7016
C7017
R7022
D7004
D7005
D7002
D7009 5-ET
R7009
R7040
R7041
R7010
R7011
R7012
D7010
D7008
R7021
L7196
S7012
S7002 CH+
S7013 RECLINK
S7003 CH-
FW7001
28 SW/DISPLAY PWB ASS'Y
LPA10097
FRONT PWB
LPB10097 -001A
D7011
D7006
R7042
S7011 REVIEW
S7010 TIMER
R7028
C7022
S7001 POWER
FRONT PWB ASS'Y
R7027
R7026
B7012
LPA10097
C7195
L7194
CN7191
L7193
L7192
C7193
L7191
J7193
C7191
C7194
J7192
J7191
R7192
R7191
D7192
D7191
C7192
1
2
3
4
5
6
7
8
9
10
11
B
A

COMPONENT PARTS LOCATION GUIDE <SW/DISPLAY>

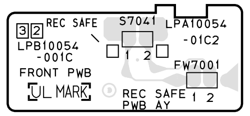
REF.NO.	LOCATION		
CAPACITOR			
C7001	A	D	5A
C7002	A	D	3A
C7003	A	D	5A
C7004	A	D	5A
C7005	A	D	5A
C7006	A	D	4A
C7007	A	D	4B
C7008	A	D	6A
C7009	A	D	6A
C7010	A	D	6A
C7011	A	D	3A
C7012	A	D	3A
C7013	A	D	7A
C7014	A	D	7A
C7015	A	D	7A
C7016	A	D	7A
C7017	A	D	7A
C7018	A	D	6A
C7019	A	D	4A
C7020	A	D	5A
C7021	A	D	6A
C7022	A	D	10B
C7191	A	D	10A
C7192	A	D	11A
C7193	A	D	11A
C7194	A	D	10A
C7195	A	D	11A
CONNECTOR			
CN7001	A	D	1A
CN7002	A	D	1A
CN7191	A	D	11B
DIODE			
D7001	A	D	3B
D7002	A	D	7A
D7003	A	D	4A
D7004	A	D	8B
D7005	A	D	8B
D7006	A	D	10B
D7008	A	D	9A
D7009	A	D	8A
D7010	A	D	8A
D7011	A	D	10B
D7191	A	D	10A
D7192	A	D	11A
IC			
IC7001	B	C	6A
IC7002	A	D	4A
JACK			
J7191	A	D	11A
J7192	A	D	11A
J7193	A	D	10A
COIL			
L7001	A	D	3A
L7191	A	D	11A
L7192	A	D	10A
L7193	A	D	10A
L7194	A	D	11A
L7196	A	D	8A
RESISTOR			
R7001	A	D	4A
R7002	A	D	5A
R7003	A	D	5A
R7004	A	D	5A
R7005	A	D	7A
R7006	A	D	7A
R7007	A	D	7A
R7008	A	D	7A
R7009	A	D	8A
R7010	A	D	8A
R7011	A	D	8A
R7012	A	D	8A
R7013	A	D	7A
R7014	A	D	3A
R7015	A	D	4A
R7020	A	D	7A
R7021	A	D	9A
R7022	A	D	8A
R7023	A	D	3A
R7024	A	D	1B
R7025	A	D	1B
R7026	A	D	10B
R7027	A	D	10B
R7028	A	D	10B
R7030	A	D	7A
R7031	A	D	3A
R7032	A	D	1B
R7033	A	D	1B
R7034	A	D	1B
R7035	A	D	1B
R7036	A	D	2A
R7037	A	D	2A
R7038	A	D	2A
R7040	A	D	8A
R7041	A	D	8A
R7042	A	D	10B
R7191	A	D	11A
R7192	A	D	11A
SWITCH			
S7001	A	D	11B
S7002	A	D	9A
S7003	A	D	9A
S7004	A	D	3A
S7005	A	D	3A
S7006	A	D	1C
S7007	A	D	1B
S7008	A	D	1B
S7009	A	D	1B
S7010	A	D	10B
S7011	A	D	10B
S7012	A	D	8A
S7013	A	D	8A
S7014	A	D	2A
S7015	A	D	2B
S7016	A	D	3A
S7017	A	D	2A
TEST POINT			
TP7001	A	D	2A
TPGND	A	D	2A
OTHER			
DI7001	A	D	6A

4.23 SW/DISPLAY, REC SAFETY, JACK AND JOG CIRCUIT BOARDS [HR-S7700MS]

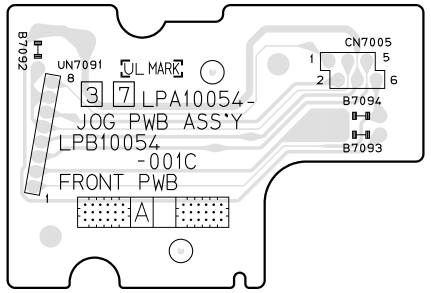
<36>JACK
LPB10054-001C


FW7193
UL MARK
CN7192
3
4
2
1
36
LPA10054
D7197
D7199
D7198
S-IN
J7194
6
5
C7196
R7194
R7193
JACK PWB ASS'Y
FRONT PWB
-001C
LPB10054

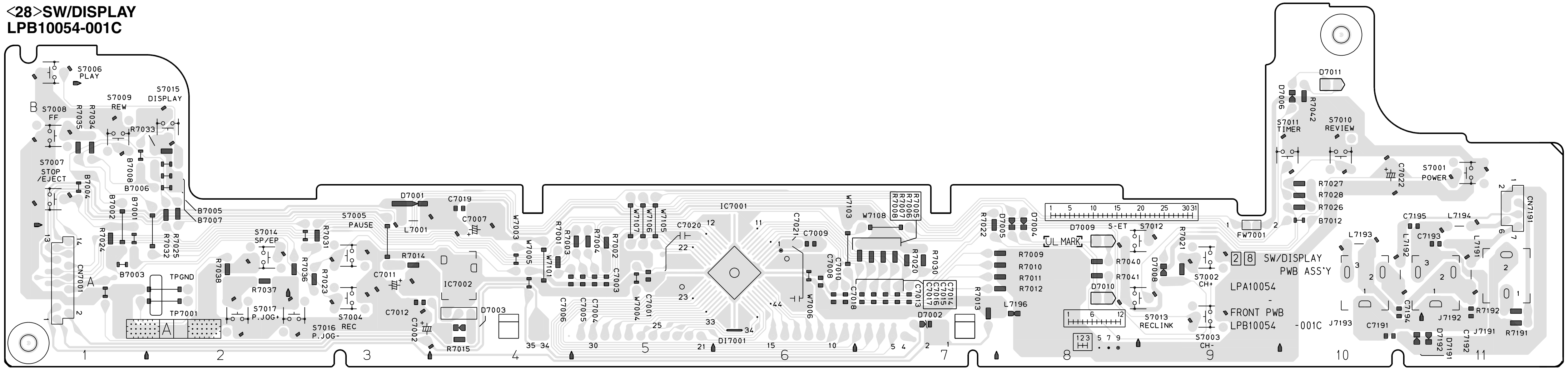
<32>REC SAFETY
LPB10054-001C


32
REC SAFE
LPB10054
-001C
FRONT PWB
UL MARK
S7041
1 2
LPA10054
-01C2
FW7001
REC SAFE
PWB AY

<37>JOG
LPB10054-001C


B7092
UN7091
8
1
UL MARK
37
LPA10054-
JOG PWB ASS'Y
LPB10054
-001C
FRONT PWB
A
CN7005
1
2
5
6
B7094
B7093

<28>SW/DISPLAY
LPB10054-001C

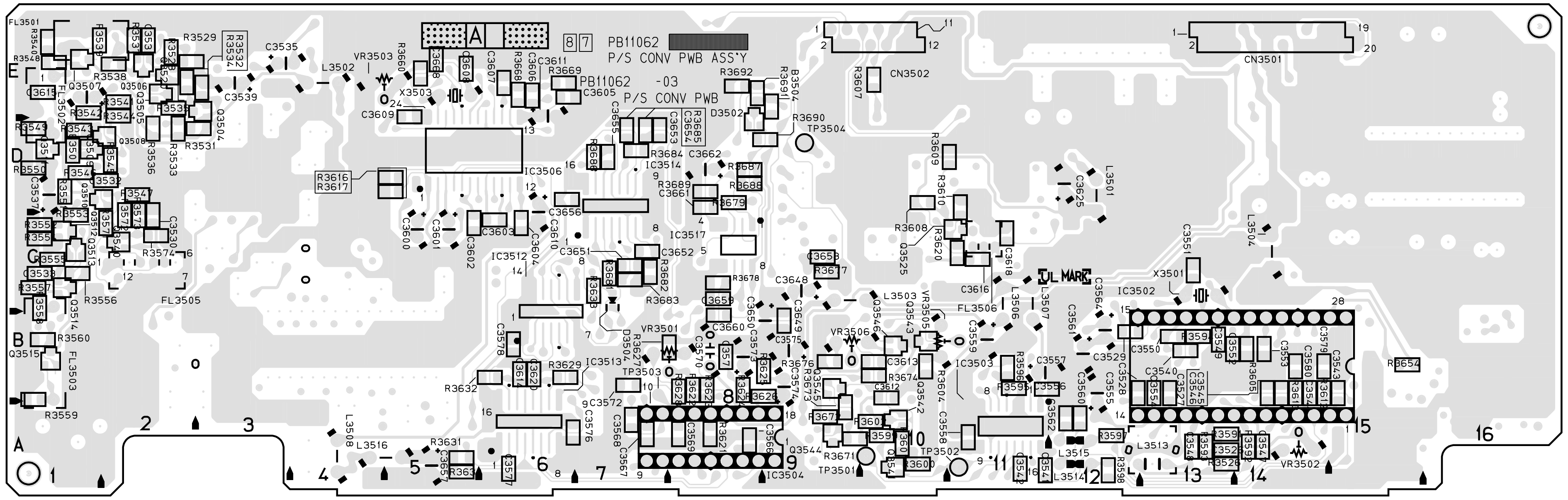

S7006
PLAY
S7009
REW
S7015
DISPLAY
S7008
FF
R7035
R7034
R7033
S7007
STOP
/EJECT
B7004
B7008
B7006
B7002
B7001
B7005
B7007
R7024
R7032
R7025
CN7001
B7003
TPGND
TP7001
S7014
SP/EP
R7038
R7037
S7017
P.JOG+
S7016
P.JOG-
REC
S7005
PAUSE
R7031
R7036
R7023
C7011
S7004
C7012
C7002
D7001
L7001
C7019
C7007
R7014
IC7002
D7003
R7015
W7003
W7005
W7101
R7001
R7003
R7004
R7002
C7003
C7006
C7005
C7004
C7001
W7004
W7107
W7106
W7105
C7020
IC7001
DI7001
C7021
C7009
W7006
W7103
W7108
C7010
C7008
C7018
R7020
R7030
D7002
R7013
R7022
D7005
D7004
L7196
D7009
UL MARK
R7009
R7010
R7011
R7012
R7040
R7041
D7010
D7008
S7012
S-ET
R7021
S7013
RECLINK
S7002
CH+
S7003
CH-
28
SW/DISPLAY
PWB ASS'Y
LPA10054
FRONT PWB
LPB10054
-001C
FW7001
D7006
R7042
D7011
S7011
TIMER
S7010
REVIEW
R7027
R7028
R7026
B7012
C7022
S7001
POWER
CN7191
C7195
L7194
L7193
L7192
C7193
L7191
C7194
J7193
C7191
J7192
D7192
D7191
J7191
C7192
R7192
R7191
A
B
1
2
3
4
5
6
7
8
9
10
11

COMPONENT PARTS LOCATION GUIDE ＜SW/DISPLAY＞

REF.NO.	LOCATION		
CAPACITOR			
C7001	A	D	5A
C7002	A	D	3A
C7003	A	D	5A
C7004	A	D	5A
C7005	A	D	5A
C7006	A	D	4A
C7007	A	D	4A
C7008	A	D	6A
C7009	A	D	6A
C7010	A	D	6A
C7011	A	D	3A
C7012	A	D	3A
C7013	A	D	7A
C7014	A	D	7A
C7015	A	D	7A
C7016	A	D	7A
C7017	A	D	7A
C7018	A	D	6A
C7019	A	D	4B
C7020	A	D	5A
C7021	A	D	6A
C7022	A	D	10B
C7191	A	D	10A
C7192	A	D	11A
C7193	A	D	11A
C7194	A	D	10A
C7195	A	D	11A
CONECTOR			
CN7001	A	D	1A
CN7191	A	D	11B
DIODE			
D7001	A	D	3B
D7002	A	D	7A
D7003	A	D	4A
D7004	A	D	8B
D7005	A	D	8B
D7006	A	D	10B
D7008	A	D	9A
D7009	A	D	8A
D7010	A	D	8A
D7011	A	D	10B
D7191	A	D	10A
D7192	A	D	11A
IC			
IC7001	B	C	6A
IC7002	A	D	4A
JACK			
J7191	A	D	11A
J7192	A	D	11A
J7193	A	D	10A
COIL			
L7001	A	D	9C
L7191	A	D	11A
L7192	A	D	10A
L7193	A	D	10A
L7194	A	D	11A
L7196	A	D	8A
RESISTOR			
R7001	A	D	4A
R7002	A	D	5A
R7003	A	D	5A
R7004	A	D	5A
R7005	A	D	7A
R7006	A	D	7A
R7007	A	D	7A
R7008	A	D	7A
R7009	A	D	7A
R7010	A	D	7A
R7011	A	D	7A
R7012	A	D	7A
R7013	A	D	7A
R7014	A	D	3A
R7015	A	D	4A
R7020	A	D	7A
R7021	A	D	9A
R7022	A	D	7A
R7023	A	D	3A
R7024	A	D	1A
R7025	A	D	2A
R7026	A	D	10B
R7027	A	D	10B
R7028	A	D	10B
R7030	A	D	7A
R7031	A	D	3B
R7032	A	D	2A
R7033	A	D	2B
R7034	A	D	1B
R7035	A	D	1B
R7036	A	D	3A
R7037	A	D	2A
R7038	A	D	2A
R7040	A	D	8A
R7041	A	D	8A
R7042	A	D	10B
R7191	A	D	11A
R7192	A	D	11A
SWITCH			
S7001	A	D	11B
S7002	A	D	9A
S7003	A	D	9A
S7004	A	D	3A
S7005	A	D	3A
S7006	A	D	1C
S7007	A	D	1B
S7008	A	D	1B
S7009	A	D	1B
S7010	A	D	10B
S7011	A	D	10B
S7012	A	D	8A
S7013	A	D	8A
S7014	A	D	2A
S7015	A	D	2B
S7016	A	D	3A
S7017	A	D	2A
OTHER			
DI7001	A	D	6A
FW7001	A	D	9B
TP7001	A	D	1A
TPGND	A	D	1A

4.24 P/S CONVERTER CIRCUIT BOARD

<87>P/S CONVERTER
PB11062-03



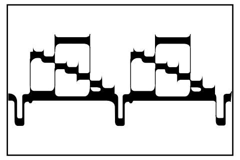
COMPONENT PARTS LOCATION GUIDE <P/S CONVERTER>

REF.NO.	LOCATION		
CAPACITOR			
C3521	A	D	16C
C3522	A	D	15C
C3523	A	D	15D
C3524	A	D	16E
C3525	A	D	14D
C3526	B	C	13A
C3527	B	C	13B
C3528	B	C	12B
C3529	B	C	12B
C3530	B	C	2C
C3531	B	C	2E
C3532	B	C	2D
C3533	B	C	1C
C3535	A	D	3E
C3536	A	D	1E
C3537	A	D	1D
C3538	A	D	2D
C3539	A	D	3E
C3540	B	C	13B
C3541	B	C	12A
C3542	B	C	11A
C3543	B	C	15B
C3544	B	C	14B
C3545	B	C	14B
C3546	B	C	14B
C3547	B	C	14A
C3548	B	C	13A
C3549	B	C	13B
C3550	B	C	13B
C3551	B	C	13C
C3552	B	C	13B
C3553	B	C	14B
C3554	B	C	13B
C3555	A	D	12B
C3556	B	C	12B
C3557	A	D	11B
C3558	B	C	11A
C3559	A	D	11B
C3560	B	C	12A
C3561	A	D	12B
C3562	B	C	12A
C3564	A	D	12B
C3566	B	C	8A
C3567	B	C	7A
C3568	B	C	7A
C3569	B	C	8A
C3570	A	D	8B
C3571	B	C	8B
C3572	B	C	7B
C3573	A	D	8B
C3574	A	D	9B
C3575	A	D	9B
C3576	B	C	7A
C3577	B	C	6A
C3578	B	C	6B
C3579	B	C	14B
C3580	B	C	14B
C3600	A	D	5C
C3601	A	D	5C
C3602	B	C	5C
C3603	B	C	6C
C3604	B	C	6C
C3605	B	C	6E
C3606	B	C	6E
C3607	B	C	6E
C3608	B	C	5E
C3609	B	C	5E
C3610	A	D	6D
C3611	A	D	6E
C3612	B	C	10B
C3613	B	C	10B
C3614	B	C	6B
C3615	B	C	1E
C3616	B	C	11C
C3618	B	C	11C
C3620	B	C	6B
C3625	A	D	12D
C3626	A	D	10C
C3627	A	D	10C
C3635	A	D	4D
C3636	A	D	4D
C3637	A	D	3D
C3638	A	D	3D
C3643	A	D	11E
C3644	A	D	13E
C3645	A	D	11E
C3646	A	D	12E
C3648	A	D	9C
C3649	B	C	9B
C3650	A	D	9B
C3651	B	C	7C
C3652	B	C	7C
C3653	B	C	7D
C3654	B	C	7D
C3655	B	C	7D
C3656	B	C	6D
C3657	A	D	5A
C3658	B	C	9C
C3659	B	C	8C
C3660	B	C	8B
C3661	B	C	8D
C3662	A	D	8D
C3668	B	C	5E
CONNECTOR			
CN3501	A	D	13E
CN3502	A	D	9E
DIODE			
D3502	B	C	8D
D3504	B	C	7C
IC			
IC3501	A	D	17D
IC3502	A	D	15A
IC3503	B	C	11A
IC3504	A	D	9A
IC3506	B	C	5D
IC3511	A	D	11E
IC3512	B	C	6B
IC3513	B	C	6A
IC3514	B	C	7D
IC3517	B	C	8C
COIL			
L3501	A	D	12D
L3502	A	D	4E
L3503	A	D	9C
L3504	A	D	14C
L3506	A	D	11C
L3507	A	D	11C
L3508	A	D	4A
L3510	A	D	12E
L3511	A	D	16C
L3512	A	D	16E
L3513	A	D	13A
L3514	A	D	12A
L3515	A	D	12A
L3516	A	D	5A
TRANSISTOR			
Q3504	B	C	3E
Q3505	B	C	2E
Q3506	B	C	2E
Q3507	B	C	1E
Q3508	B	C	2D
Q3509	B	C	1D
Q3510	B	C	2D
Q3511	B	C	1D
Q3512	B	C	1C
Q3513	B	C	1C
Q3514	B	C	1C
Q3515	B	C	1B
Q3520	B	C	2E
Q3525	B	C	11C
Q3540	B	C	2C
Q3541	B	C	10A
Q3542	B	C	10A
Q3543	B	C	10B
Q3544	B	C	9A
Q3545	B	C	9B
Q3546	B	C	10B
RESISTOR			
R3526	B	C	13A
R3528	B	C	2E
R3529	B	C	2E
R3531	B	C	3D
R3532	B	C	3E
R3533	B	C	2D
R3534	B	C	2E
R3535	B	C	2E
R3536	B	C	2D
R3537	B	C	2E
R3538	B	C	2E
R3539	B	C	1E
R3540	B	C	1E
R3541	B	C	2E
R3542	B	C	1E
R3543	B	C	1D
R3544	B	C	2E
R3545	B	C	2D
R3546	B	C	1D
R3547	B	C	2D
R3548	B	C	1E
R3549	B	C	1D
R3550	B	C	1D
R3551	B	C	1D
R3552	B	C	1C
R3553	B	C	1C
R3554	B	C	1C
R3555	B	C	1C
R3556	B	C	1C
R3557	B	C	1C
R3558	B	C	1B
R3559	B	C	1B
R3560	B	C	1B
R3571	B	C	2C
R3572	B	C	2C
R3573	B	C	2C
R3574	B	C	2C
R3591	B	C	13A
R3592	B	C	14A
R3593	B	C	13A
R3594	B	C	13B
R3595	B	C	11B
R3596	B	C	11B
R3597	B	C	12A
R3598	B	C	12A
R3599	B	C	10A
R3600	B	C	10A
R3601	B	C	10A
R3602	B	C	10A
R3604	B	C	10B
R3605	B	C	14B
R3607	B	C	10E
R3608	B	C	10D
R3609	B	C	10D
R3610	B	C	11D
R3612	B	C	14B
R3613	B	C	14B
R3616	B	C	5D
R3617	B	C	5D
R3620	B	C	11C
R3621	B	C	8A
R3622	B	C	8B
R3623	B	C	8B
R3624	B	C	8B
R3625	B	C	9B
R3626	B	C	9B
R3627	B	C	8B
R3628	B	C	8B
R3629	B	C	6B
R3630	B	C	5A
R3631	B	C	5A
R3632	B	C	6B
R3633	B	C	7C
R3654	B	C	15B
R3660	B	C	5E
R3668	B	C	6E
R3669	B	C	6E
R3671	B	C	9A
R3672	B	C	9A
R3673	B	C	9A
R3674	B	C	10B
R3676	B	C	9B
R3677	B	C	9C
R3678	B	C	8C
R3679	B	C	8D
R3681	B	C	7C
R3682	B	C	7C
R3683	B	C	7C
R3684	B	C	7D
R3685	B	C	7D
R3686	B	C	7D
R3687	B	C	8D
R3688	B	C	8D
R3689	B	C	8D
R3690	B	C	9D
R3691	B	C	8E
R3692	B	C	8E
OTHER			
FL3501	A	D	2E
FL3502	A	D	1E
FL3503	A	D	1C
FL3504	A	D	1A
FL3505	A	D	2C
FL3506	A	D	11C
TP3501	A	D	10A
TP3502	A	D	11A
TP3503	B	C	7B
TP3504	A	D	9D
VR3501	A	D	8B
VR3502	A	D	14A
VR3503	A	D	5E
VR3505	A	D	10B
VR3506	A	D	9B
X3501	A	D	13C
X3503	A	D	5E

WAVEFORMS

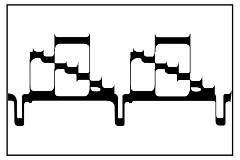
— P/S CONV. —

WF1 CN3502-1 FROM_PS_Y



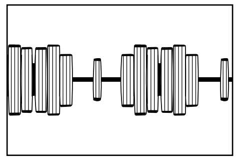
SECAM REC/PB 0.5 Vp-p
10 mV/20 µsec/DIV

WF2 CN3502-3 TO_PS_Y



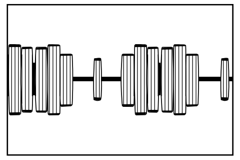
SECAM REC/PB 1.0 Vp-p
20 mV/20 µsec/DIV

WF3-1 CN3502-5 FROM_PS_C



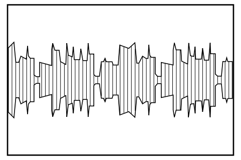
SECAM REC 0.52 Vp-p
10 mV/20 µsec/DIV

WF3-2 CN3502-5 FROM_PS_C



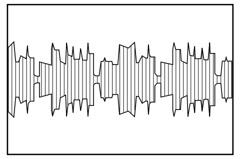
SECAM PB 0.68 Vp-p
10 mV/20 µsec/DIV

WF4-1 CN3502-7 TO_PS_C



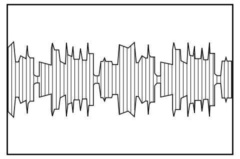
SECAM REC 0.46 Vp-p
10 mV/20 µsec/DIV

WF4-2 CN3502-7 TO_PS_C



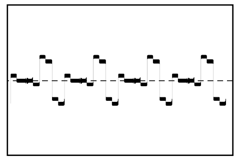
SECAM PB 0.4 Vp-p
10 mV/20 µsec/DIV

WF5 IC3502-15



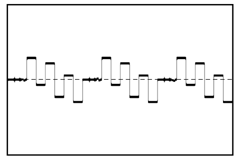
SECAM REC/PB 0.15 Vp-p
5 mV/20 µsec/DIV

WF6 IC3502-1



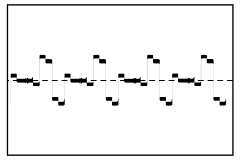
SECAM REC/PB 1.1 Vp-p
50 mV/50 µsec/DIV

WF7 IC3502-3



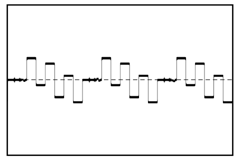
SECAM REC/PB 1.4 Vp-p
50 mV/50 µsec/DIV

WF8 IC3506-1



SECAM REC/PB 0.92 Vp-p
50 mV/20 µsec/DIV

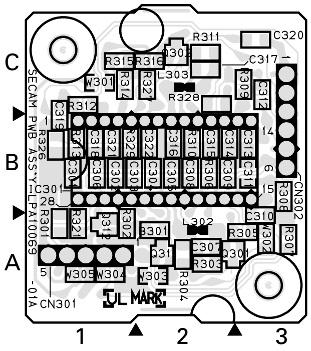
WF9 IC3506-3



SECAM REC/PB 1.0 Vp-p
50 mV/20 µsec/DIV

4.25 SECAM CIRCUIT BOARD

<88>SECAM
LPB10069-001A


C
B
A
1
2
3
R311
C320
R315
R316
Q301
C317
W301
R314
R32
L303
R328
C309
C312
C319
R312
R326
IC301
28
14
15
CN302
R308
C310
R321
R302
Q312
R301
L302
R305
C307
Q301
W302
R307
W305
W304
W303
R303
R304
CN301
5
SECAM PWB ASS'Y LPA10069-01A
UL MARK

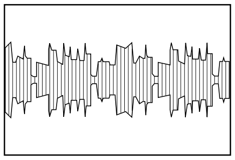
COMPONENT PARTS LOCATION GUIDE <SECAM>

REF.NO.	LOCATION		
CAPACITOR			
C301	B	C	1B
C302	B	C	1B
C303	B	C	1B
C304	B	C	2B
C305	B	C	2B
C306	B	C	1B
C307	B	C	2A
C308	B	C	2B
C309	B	C	2B
C310	B	C	3A
C311	B	C	2B
C312	B	C	3C
C313	B	C	2B
C314	B	C	2B
C315	B	C	2B
C316	B	C	2B
C317	B	C	2C
C318	B	C	1B
C319	B	C	1B
C320	B	C	3C
C321	B	C	1B
C322	B	C	2B
CONNECTOR			
CN301	A	D	1A
CN302	A	D	3C
IC			
IC301	A	D	1B
COIL			
L302	A	D	2A
L303	A	D	2C
TRANSISTOR			
Q301	B	C	2A
Q302	B	C	2C
Q311	B	C	2A
Q312	B	C	1A
RESISTOR			
R301	B	C	1A
R302	B	C	1A
R303	B	C	2A
R304	B	C	2A
R305	B	C	2A
R306	B	C	2B
R307	B	C	3A
R308	B	C	3B
R309	B	C	2C
R310	B	C	2B
R311	B	C	2C
R312	B	C	1B
R313	B	C	1B
R314	B	C	1C
R315	B	C	1C
R316	B	C	2C
R321	B	C	1A
R326	B	C	1B
R327	B	C	2C
R328	B	C	2B
R329	B	C	1B

WAVEFORMS

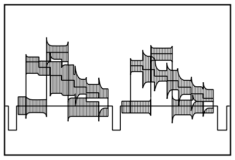
— SECAM —

WF1 CN301-1 PB_COLOR



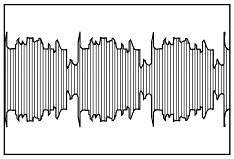
SECAM PB 0.44 Vp-p
20 mV/20 µsec/DIV

WF2 CN301-2 V_TO_SECAM



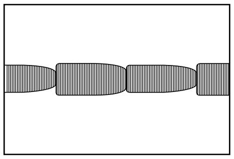
SECAM REC/PB 2.4 Vp-p
50 mV/20 µsec/DIV

WF3 CN302-4 REC_COLOR



SECAM REC 0.44 Vp-p
10 mV/20 µsec/DIV

WF4 CN302-5 PB_FM

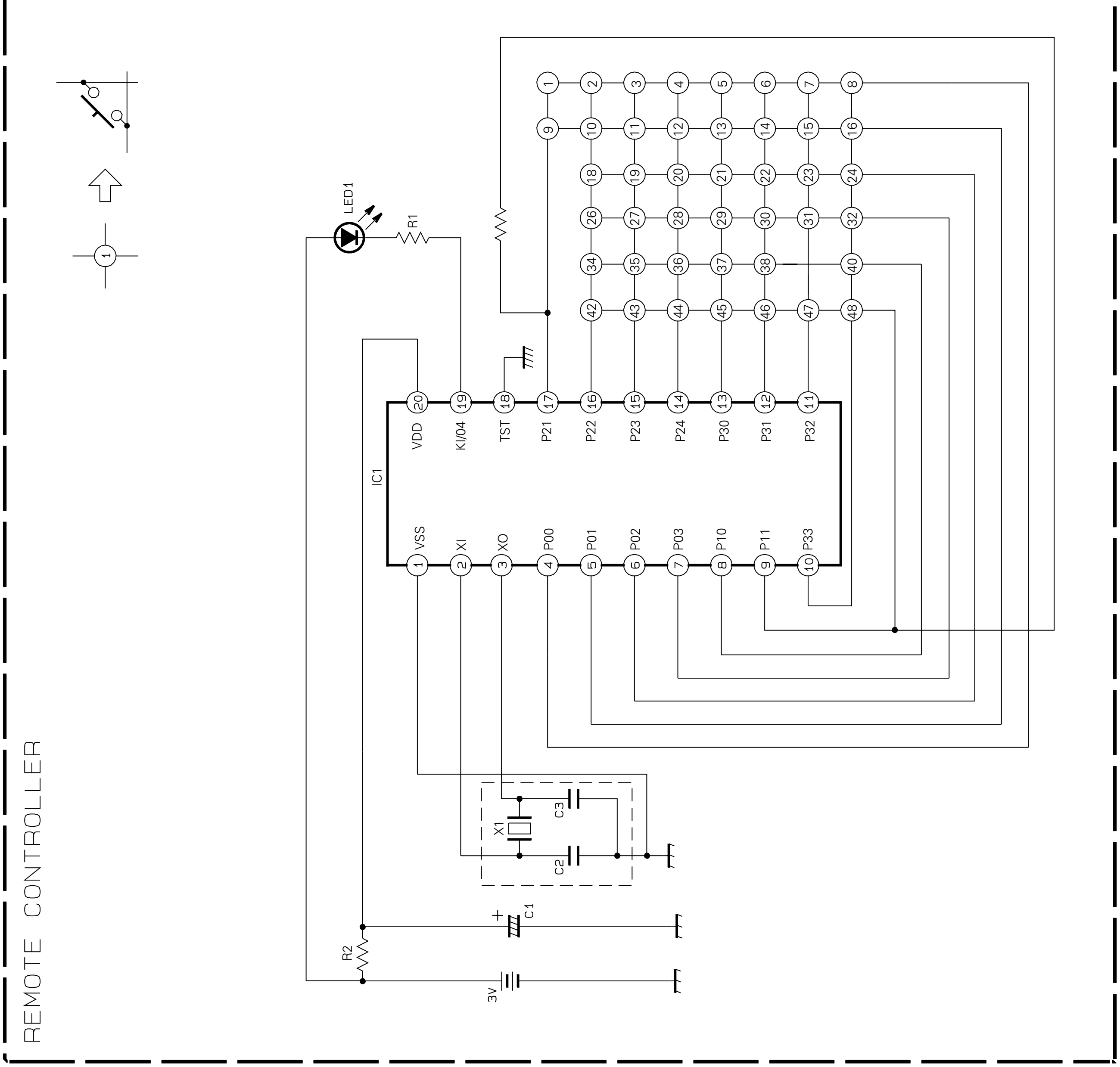


SECAM PB 0.36 Vp-p
20 mV/1 msec/DIV

4.26 REMOTE CONTROL SCHEMATIC DIAGRAM

NOTES:
1. All parts shown in this schematic are critical for safety.
2. This schematic is only for reference.
Avoid replacing individual parts.
Replace the entire unit only.

Key No.	Key Name
1	TV
2	PROG
3	◷ ?(PROG CHECK)
4	ENTREE
5	30 SEC ▲▲
6	PR −
7	DATE −
8	- - : - -
9	● (REC)
10	◀◀ ▼▼ (REW)
11	PR +
12	START/DEBUT +
13	STOP/FIN +
14	DATE +
15	START/DEBUT −
16	STOP/FIN −
18	MENU
19	0 / AUX
20	8 / DAILY/QTDN.
21	4
22	▶
23	+▲▲
24	◷
26	AUDIO/ 🔈 / 🔇 (MUTE)
27	▶ (PLAY)
28	X/0000(CANCEL)
29	7 / VSP/PDC
30	⏻ / | (POWER)
31	5
32	❚❚ (PAUSE)
34	2
35	6
36	TV/VCR
37	▮ / ▮▮ (SP/LP)
38	▼▼
40	◀
42	3
43	▶▶ ▶▶ (FF)
44	■ (STOP)
45	RE-VIEW
46	1
47	9 / WEEKLY/HEBDO
48	OK
9+27	REC START
9+32	REC PAUSE
1+30	POWER
1+36	TV/VCR
1+26	MUTE
1+37	MAIN/SUB
1+38	TV ◿ −
1+40	TV PR +
1+23	TV ◿ +
1+22	TV PR −



LED1
R1
R2
C1
C2
C3
X1
3V
IC1
VDD
KI/04
TST
P21
P22
P23
P24
P30
P31
P32
VSS
XI
XO
P00
P01
P02
P03
P10
P11
P33
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
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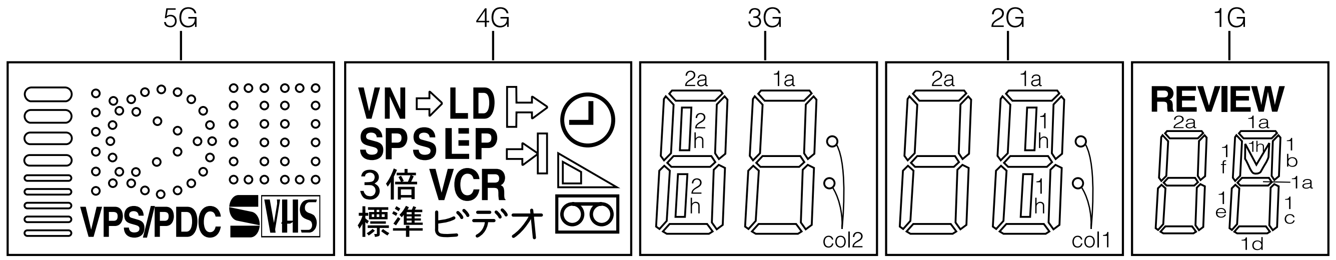
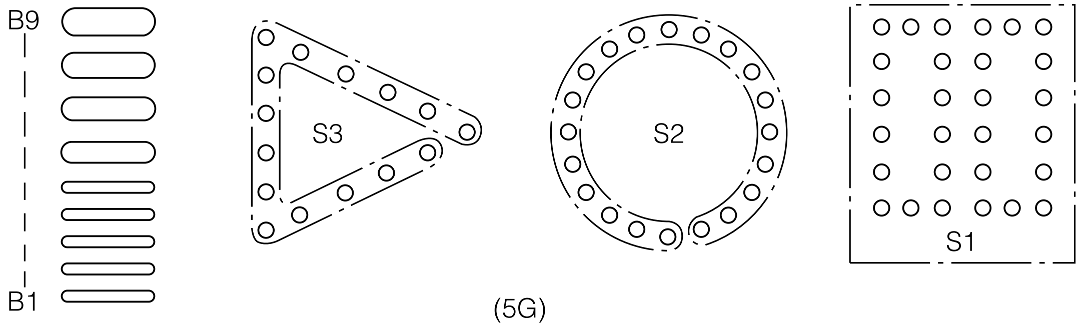
44
45
46
47
48
REMOTE CONTROLLER
5
4
3
2
1

4.27 FDP GRID ASSIGMEN AND ANODE CONNECTION [HR-S6700MS]

GRID ASSIGNMENT


5G
4G
3G
2G
1G
VPS/PDC
SVHS
VN⇨LD
SP S LP
3倍 VCR
標準 ビデオ
2a
1a
2
h
1
h
col2
col1
REVIEW
1
f
b
1a
e
c
1d


B9
B1
S3
S2
S1

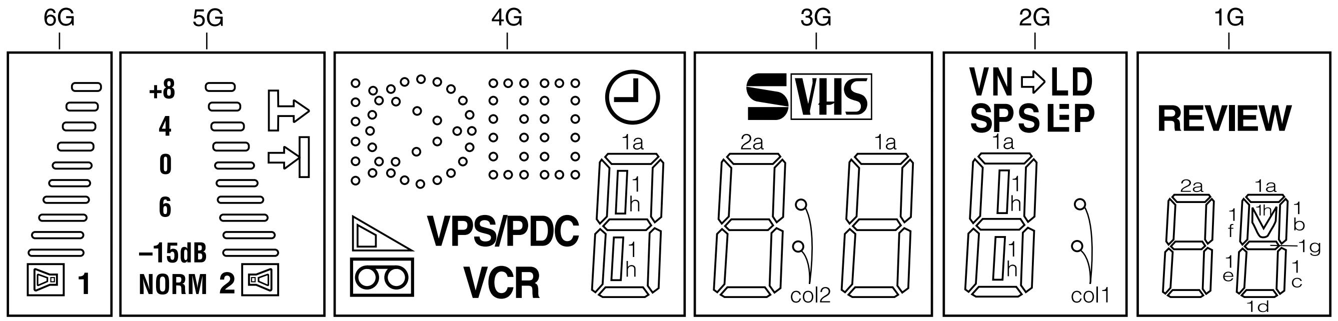
(5G)

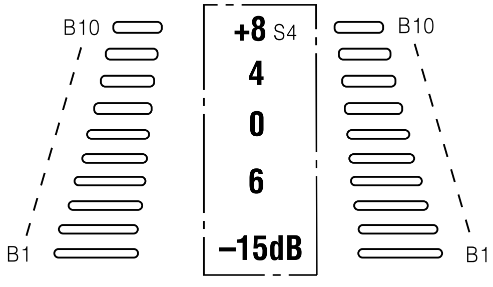
ANODE CONNECTION

	5G	4G	3G	2G	1G
P 1	S2	⊢⇨	1a	1a	1a
P 2	S1	⇨|	1b	1b	1b
P 3	S3	3倍	1f	1f	1f
P 4	VPS/PDC	標準	1g	1g	1g
P 5	SVHS	◷	1c	1c	1c
P 6	—	◺	1e	1e	1e
P 7	—	[OO]	1d	1d	1d
P 8	B9	VCR	col2	1h	1h
P 9	B8	ビデオ	2a	2a	2a
P10	B7	⇨	2b	2b	2b
P11	B6	VN	2f	2f	2f
P12	B5	LD	2g	2g	2g
P13	B4	SP	2c	2c	2c
P14	B3	S (SEP)	2e	2e	2e
P15	B2	: (SEP)	2d	2d	2d
P16	B1	LP (SEP)	2h	col1	REVIEW

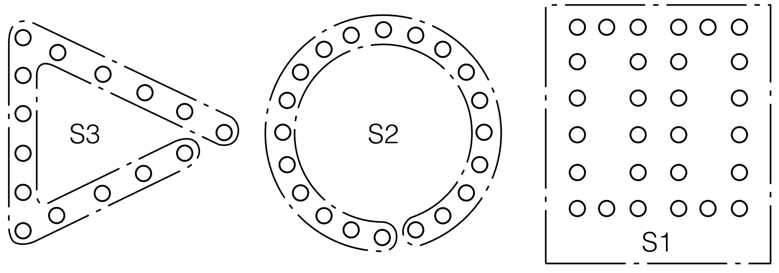
4.28 FDP GRID ASSIGMENT AND ANODE CONNECTION [HR-S7700MS]

GRID ASSIGNMENT


6G
5G
4G
3G
2G
1G
+8
4
0
6
−15dB
NORM 2
1
VPS/PDC
VCR
SVHS
VN⇨LD
SP S LP
REVIEW
2a
1a
1
h
col2
col1
1
f
b
1g
e
c
1d


B10
+8 S4
4
0
6
−15dB
B10
B1
B1

(6G, 5G)



(4G)

ANODE CONNECTION

	6G	5G	4G	3G	2G	1G
P 1	—	⊢⇨	S2	1a	1a	1a
P 2	—	⇨|	S1	1b	1b	1b
P 3	—	S4	S3	1f	1f	1f
P 4	—	NORM	VPS/PDC	1g	1g	1g
P 5	1	2	◷	1c	1c	1c
P 6	▷	◁	◺	1e	1e	1e
P 7	B10	B10	[OO]	1d	1d	1d
P 8	B9	B9	VCR	col2	1h	1h
P 9	B8	B8	1a	2a	col1	2a
P10	B7	B7	1b	2b	⇨	2b
P11	B6	B6	1f	2f	VN	2f
P12	B5	B5	1g	2g	LD	2g
P13	B4	B4	1c	2c	SP	2c
P14	B3	B3	1e	2e	S (SEP)	2e
P15	B2	B2	1d	2d	: (SEP)	2d
P16	B1	B1	1h	SVHS	LP (SEP)	REVIEW

4.29 VOLTAGE CHARTS

<VIDEO/AUDIO>

MODE PIN NO.	REC	PLAY
IC1		
1	4.2	2.1
2	2.8	2.8
3	2.6	2.6
4	1.9	1.4
5	1.9	1.5
6	2.4	2.1
7	1.5	0.8
8	0	4.1
9	2.6	3.0
10	1.9	1.9
11	3.1	2.7
12	2.8	1.9
13	3.1	3.1
14	3.5	1.7
15	0	0
16	2.8	2.8
17	1.5	1.5
18	2.8	2.8
19	0	1.8
20	2.8	2.8
21	1.6	2.0
22	2.8	2.8
23	3.1	2.8
24	4.9	5.0
25	0.3	0.3
26	0	0
27	1.3	2.1
28	2.8	2.3
29	1.9	1.9
30	2.1	2.1
31	0	0
32	2.5	2.5
33	4.9	4.9
34	2.7	2.4
35	4.9	4.9
36	2.5	2.5
37	2.3	2.3
38	-	-
39	1.3	1.3
40	-	-
41	2.7	2.7
42	2.2	2.2
43	0	0
44	2.1	2.1
45	4.7	4.7
46	4.1	4.1
47	3.0	3.0
48	2.6	2.6
49	4.9	4.9
50	2.5	2.5
51	2.8	2.8
52	2.3	2.3
53	2.3	2.3
54	2.5	2.5
55	2.2	2.2
56	0.4	0.4
57	2.4	2.4
58	8.3	8.3
59	4.7	4.7
60	4.1	4.1
61	4.2	4.2
62	4.2	4.2
63	2.3	2.3
64	2.3	2.3
65	0.6	0.6
66	0.6	0.6
67	4.2	4.2
68	4.2	4.2
69	2.4	2.4
70	0	0
71	0.3	0.3
72	0.2	0.2
73	0.3	0.3
74	2.3	2.3
75	2.6	2.6
76	0	0
77	2.6	2.6
78	0.3	0.3
79	0.2	0.2
80	0.2	0.2
81	2.3	2.3
82	0.8	0.8
83	0	0
84	2.4	2.4
85	2.3	2.3
86	2.3	2.3
87	1.7	1.9
88	2.3	2.3
89	2.3	2.3
90	2.4	2.4
91	0	0
92	0	0
93	0	2.3
94	0	1.7
95	0	0
96	2.5	2.3
97	2.7	2.3
98	2.5	2.3
99	5.0	5.0
100	5.0	5.0
101	0	0
102	0	0
103	0	0
104	2.4	2.4
105	2.4	2.4
106	2.4	2.4
107	5.0	5.0
108	0	0
109	0	0
110	0	0
111	0	2.6
112	2.6	2.6
113	1.7	0.5
114	0	0
115	2.5	2.5
116	2.5	2.5
117	2.5	2.5
118	0	0
119	2.5	2.5
120	4.7	4.5
IC2		
1	2.8	2.8
2	4.3	4.3
3	2.8	2.8
4	5.0	0
5	2.8	2.8
6	5.0	5.0
7	2.1	2.1
8	0	0
Q1 [HR-S6700MS]		
E	-	-
C	-	-
B	-	-
Q2 [HR-S6700MS]		
E	-	-
C	-	-
B	-	-
Q3 [HR-S6700MS]		
E	-	-
C	-	-
B	-	-
Q4 [HR-S6700MS]		
E	-	-
C	-	-
B	-	-
Q5		
E	5.0	2.8
C	0	0
B	4.2	2.2
Q7		
E	1.2	1.2
C	3.8	3.8
B	1.9	1.9
Q8		
E	3.1	3.1
C	5.0	5.0
B	3.8	3.8
Q9		
E	3.7	3.7
C	0	0
B	3.1	3.1
Q10		
E	2.4	2.4
C	0	0
B	1.8	1.8
Q14		
E	4.9	4.9
C	4.9	0
B	0	4.9
Q17		
E	0	0
C	0	0
B	4.8	4.8
Q18		
E	3.2	3.0
C	0	0
B	2.6	2.3
Q21		
E	2.8	2.8
C	0	0
B	2.1	2.1
Q24		
E	-	-
C	0	0
B	-	-
Q38		
E	2.3	2.3
C	4.9	4.9
B	3.0	3.0
Q41		
E	0	0
C	0	0
B	0	0
Q401 [HR-S7700MS]		
E	9.2	0
C	0	0
B	9.0	0
Q402 [HR-S7700MS]		
E	7.4	0
C	0	0
B	6.8	0
Q403 [HR-S7700MS]		
E	0	0
C	0	0
B	4.9	0
Q404 [HR-S7700MS]		
E	0	0
C	0	11.0
B	9.0	0
Q405 [HR-S7700MS]		
E	11.0	11.0
C	11.0	0
B	10.3	11.0
Q2001		
E	-12.4	0
C	0	0
B	-19.0	0.7
Q2002		
E	-12.4	0
C	0	0
B	-18.7	0.7
Q2003		
E	4.9	5.0
C	-18.8	4.9
B	4.9	0
Q2004		
E	0	0
C	4.9	0
B	0.5	4.1
Q2052		
E	11.2	11.2
C	11.1	3.9
B	10.4	11.2
Q2053		
E	0	0
C	0	11.2
B	4.9	0
Q2054		
E	11.1	3.9
C	10.9	0.2
B	10.3	3.9
Q2061 [HR-S7700MS]		
E	0	0
C	7.8	0.3
B	0	0.3
Q2062 [HR-S7700MS]		
E	11.1	3.9
C	10.9	0.2
B	10.3	3.9
Q2251		
E	5.0	5.0
C	1.7	1.7
B	4.9	4.9
Q2252		
E	0	0
C	0	0
B	3.6	3.6
CN1		
4	0	0
5	0	0
6	0	0
7	0	0
8	2.4	2.3
9	2.4	2.3
10	2.4	2.3
11	2.4	2.3
12	2.7	2.3
13	2.7	2.3
14	2.7	2.3
15	0	0
16	0	0
CN301		
1	2.4	2.4
2	0	0
3	0	5.1
4	2.5	0
5	4.9	2.7
6	0.2	0
CN302		
1	0	2.5
2	2.3	2.3
3	4.9	4.9
4	0.4	0.4
5	0	0
CN2001		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	2.2	2.4
7	2.4	2.4
CN2002		
1	0	0
2	0	0
CN2051		
1	7.9	0.2
2	0	0
3	0	0
4	0	0

<AUDIO ERASE>

MODE PIN NO.	REC	PLAY
Q2051	-	-
CN2052		
1	7.9	0.2
2	0	0
3	0	0
4	0	0

<SYSTEM CONTROL>

MODE PIN NO.	REC	PLAY
IC3001		
1	2.7	2.4
2	0	0
3	1.8	2.4
4	2.4	2.4
5	0	0.3
6	2.5	2.5
7	2.4	2.4
8	2.4	2.4
9	4.8	4.8
10	4.9	4.9
11	0	0
12	0	0
13	0	2.5
14	4.1	4.1
15	4.5	4.8
16	0.5	0.5
17	0	0
18	0	0
19	0.6	0.6
20	4.5	4.5
21	3.9	3.9
22	0	1.8
23	0	0
24	4.8	4.8
25	0	0
26	4.9	4.9
27	4.9	4.9
28	4.9	4.9
29	4.9	4.9
30	4.9	4.9
31	4.9	4.9
32	4.9	4.9
33	0	0
34	0	0
35	0	0
36	0	0
37	0	0
38	0	1.8
39	4.3	4.3
40	0	0
41	4.9	4.9
42	4.5	4.5
43	0	0
44	0	0
45	4.9	4.9
46	0	0
47	0	0
48	0	0
49	4.0	4.0
50	4.8	4.6
51	4.9	4.9
52	-	-
53	4.3	4.3
54	-	-
55	-	-
56	0	0
57	0	0
58	4.9	0
59	0	0
60	0	0
61	0	0
62	0	0
63	0	0
64	-	-
65	-	-
66	-	-
67	-	-
68	0	0
69	-	-
70	4.8	4.8
71	4.8	4.8
72	4.8	4.8
73	4.8	4.8
74	0	0
75	4.5	4.5
76	4.5	4.5
77	0	0
78	0	0
79	0	0
80	0	0
81	0	0
82	4.9	4.9
83	0	0
84	0	0
85	0	0
86	2.0	2.0
87	0	0
88	4.9	4.9
89	0	0
90	0	0
91	2.8	2.8
92	4.9	4.9
93	0	0
94	4.9	4.9
95	4.9	4.9
96	0	4.9
97	4.9	4.9
98	0.3	0.3
99	0	-
100	-	-
101	2.5	2.5
102	1.2	1.2
103	0	0
104	4.8	4.8
105	0	0
106	0	0
107	0	0
108	1.5	1.5
109	4.9	4.9
110	0	0
111	0	0
112	2.4	2.4
IC3002		
1	4.9	4.9
2	4.9	4.9
3	0	0
IC3003		
1	0	0
2	0	0
3	0	0
4	0	0
5	4.5	4.5
6	4.5	4.5
7	0	0
8	4.9	4.9
IC3004		
1	12.0	12.0
2	0.1	0.1
3	0	0
4	0.1	0.1
5	12.0	12.0
6	12.0	12.0
7	0	0
8	0	0
9	0	0
IC3601		
1	0	0
2	0	0
3	0	0
4	0	3.9
5	4.5	4.6
6	0	0
7	0	0
8	0	0
9	0	0
10	0	0
11	0	0
12	0	0
13	4.8	4.8
14	3.6	3.6
15	0	0
16	4.9	4.9
IC3651		
1	0	0
2	0	0
3	0	-
4	0	0
5	3.1	3.1
6	4.5	4.5
7	0	0
8	0	0
9	0	0
10	0	0
11	0	0
12	0	0
13	0	0
14	0	0
15	0	0
16	4.9	4.9
Q3001		
E	0	0
C	12.0	12.0
B	0	0
Q3002		
E	0	0
C	3.9	3.9
Q3003		
E	0	0
C	4.5	4.5
Q3004		
E	0	0
C	0	0
B	0.7	0.7
Q3005		
E	4.9	4.9
C	5.6	5.6
B	5.6	5.6
Q3007		
E	0	0
C	4.7	4.7
B	0	0
Q4001		
E	0	0
C	0	0
B	4.8	4.8
Q4003		
E	0	0
C	-	-
B	4.8	4.8
CN3001		
1	12.0	12.0
2	0	0
3	1.4	1.4
4	0	0
5	1.5	1.5
CN3002		
1	0.1	0
2	0.1	0
CN3003		
1	0	0
2	2.5	2.5
3	2.5	2.5
4	5.0	5.0
5	0	0
6	4.9	4.9
7	-	-
8	11.2	11.2
CN3004		
1	4.9	4.9
2	4.9	4.9
3	0	0
4	0	0
CN3011		
1	4.9	4.9
2	0	0
3	4.9	4.9
4	4.9	4.9
5	4.3	4.3
6	4.9	4.9
7	4.5	-
8	4.3	4.3
9	4.9	4.9
10	0	0
11	0	0
12	-17.3	-17.3
13	-13.9	-13.9
14	-26.2	-26.2
CN3012 [HR-S7700MS]		
1	5.0	5.0
2	5.0	5.0
3	0	0
4	0	0
5	4.9	4.9
6	4.9	4.9

<SW.REG>

MODE PIN NO.	REC	PLAY
IC5101		
1	64.6	62.7
2	-	-
3	0	0
4	-	-
5	-	-
IC5301		

MODE PIN NO.	REC	PLAY
1	5.6	5.6
2	5.1	5.1
3	4.5	4.5
4	0	0
5	11.9	11.9
6	11.2	11.2
7	12.0	12.0
8	5.6	5.6
9	1.3	1.3
10	4.0	4.0
Q5301		
E	22.3	22.3
C	11.3	11.3
B	22.3	22.3
Q5302		
E	0	0
C	22.2	22.2
B	0	0
Q5303		
E	5.0	5.0
C	5.6	5.6
B	5.6	5.6
Q5304		
E	10.6	10.6
C	12.0	12.0
B	11.2	11.2
Q5305		
E	12.0	12.0
C	12.0	12.0
B	0.6	0.6
Q5310		
E	0	0
C	0	0
B	3.1	3.1
Q5311		
E	30.9	31.2
C	30.8	31.2
B	30.2	30.5
Q5312		
E	-13.9	-13.9
C	-13.8	-13.8
B	-13.2	-13.2
Q5318		
E	5.6	5.6
C	5.6	5.6
B	1.0	1.0

<TUNER>

MODE PIN NO.	REC	PLAY
IC6080		
1	3.9	3.9
2	0	0
3	3.9	3.9
4	3.9	3.9
5	11.2	11.2
Q6030		
E	0.8	0.8
C	0	0
B	0	0
Q6031		
E	0	0
C	0	0
B	4.8	4.8
Q6032		
E	0	0
C	0	0
B	4.8	4.8
CN6701		
1	0	0
2	4.6	4.6
3	4.5	4.5
4	4.8	4.8
5	0.3	0.3
6	0.3	0.3
7	4.9	4.9
8	0	0
9	0	0
10	0	0

<CONNECTION>

MODE PIN NO.	REC	PLAY
Q7201		
E	0	0
C	5.0	5.0
B	0	0
CN501		
1	2.5	2.5
2	0	0
3	2.7	2.7
4	5.0	5.0
5	2.4	2.4
6	0.1	4.5
7	3.3	3.3
8	0	0
9	2.9	2.9
10	0	0
11	4.7	4.7
12	4.1	4.1
13	0	0
14	0.7	0.7
15	2.5	2.5
16	0	0
17	-	-
CN502		
1	0.1	4.9
2	4.1	4.1
3	4.7	4.7
4	2.4	2.4
5	4.9	4.9
6	4.9	4.9
7	0	0
8	0	0
9	2.7	2.7
10	2.4	2.4
11	3.3	3.3
12	2.9	2.9
13	2.8	2.8
14	0	0
15	0	0
16	2.4	2.1
17	1.3	2.3
18	4.6	4.6
19	1.6	1.6
20	0	0
21	0	0
22	0	0
23	0	0
24	0	0
25	2.4	2.4
26	0	0
27	2.6	2.3
28	0	0
29	3.5	2.4
30	2.8	2.8
CN901		
1	0	0
2	0	0
3	0	0
4	0	0
CN902		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
CN903		
1	3.1	3.1
2	0	0
3	0	0
4	0.1	0.1
5	0	0
6	2.4	2.4
7	0	0
8	10.6	10.6
9	0	0
10	11.2	11.2
11	0.8	0.8
12	4.9	4.9
CN904		
1	0	0
2	4.6	4.6
3	4.9	4.9
4	0	0
5	3.0	3.0
6	4.3	4.3
7	4.5	4.5
8	4.9	4.9
9	0	0
10	4.3	4.3
11	0	0
12	2.1	2.1
CN905		
1	4.6	4.6
2	4.5	4.5
3	4.8	4.8
4	0	0
5	0	0
CN907		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	0	0
8	0.3	0.3
9	0	0
10	0	0
CN6102		
5	0	0
6	0	0
7	11.2	11.2
8	11.2	11.2

<2D DIGITAL>
[HR-S6700MS]

MODE PIN NO.	REC	PLAY
IC1201	-	-
Q1201	-	-
Q1202	-	-
Q1203	-	-
Q1204	-	-
Q1205	-	-
Q1206	-	-
CN1201	-	-

<3D DIGITAL/2M>
[HR-S7700MS]

MODE PIN NO.	REC	PLAY
IC1401	-	-
Q1401	-	-
Q1402	-	-
Q1403	-	-
Q1404	-	-
Q1406	-	-
Q1407	-	-
Q1408	-	-
Q1410	-	-
Q1412	-	-
Q1413	-	-
Q1414	-	-
Q1417	-	-
Q1418	-	-
Q1419	-	-
Q1420	-	-
CN1401		
1	2.5	2.5
2	0	0
3	2.7	2.7
4	5.0	5.0
5	2.4	2.4
6	0.1	4.5
7	3.3	3.3
8	0	0
9	2.9	2.9
10	0	0
11	4.7	4.7
12	4.1	4.1
13	0	0
14	0.7	0.7
15	2.5	2.5
16	0	0
17	-	-

<TERMINAL>

MODE PIN NO.	REC	PLAY
IC201		
1	0	0
2	2.5	2.5
3	4.6	4.6
4	0	0
5	4.6	4.6
6	2.4	2.4
7	2.5	2.5
8	4.9	4.9
9	3.2	3.2
10	4.3	4.3
11	4.5	3.8
12	4.9	4.9
13	2.9	2.9
14	2.8	2.8
15	0	0
16	1.2	1.2
17	0	0
18	4.9	4.9
19	2.4	2.4
20	0	0
21	2.4	2.4
22	0.5	0.5
23	4.9	4.9
24	2.8	2.8
25	2.4	2.4
26	4.9	4.9
27	4.6	4.6
28	3.5	3.5
29	4.9	4.9
30	4.9	4.9
Q207		
E	3.1	3.1
C	0	0
B	2.4	2.4
IC901	-	-
Q901		
E	0	0
C	2.5	0
B	0	0
Q902		
E	0	0
C	0	0
B	0	0
Q903	-	-
Q904	-	-
Q905		
E	0	0
C	1.8	1.8
B	0.6	0.6
Q906		
E	1.2	1.2
C	8.3	8.3
B	1.8	1.8
Q907		
E	7.7	7.7
C	10.6	10.6
B	8.3	8.3
Q908		
E	6.1	6.1
C	0	0
B	5.4	5.4
Q909	-	-
Q911		
E	0	0
C	8.0	8.0
B	0	0
Q912		
E	0	0
C	0	0
B	8.0	8.0
CN911		
1	0	0
2	3.1	3.1
3	0	0
4	2.4	2.4
5	0	0
6	2.4	2.4
7	0	0
8	0	0
9	0	0
10	0	0
11	0	0
12	2.5	0
13	0	0
14	0.2	0.2
CN913		
1	3.1	3.1
2	0	0
3	0	0
4	0.1	0.1
5	0	0
6	2.4	2.4
7	0	0
8	10.6	10.6
9	0	0
10	11.2	11.2
11	0.8	0.8
12	4.9	4.9
CN914		
1	0	0
2	4.6	4.6
3	4.9	4.9
4	0	0
5	3.0	3.0
6	4.3	4.3
7	4.5	4.5
8	4.9	4.9
9	0	0
10	4.3	4.3
11	0	0
12	2.1	2.1
CN915		
1	4.6	4.6
2	4.5	4.5
3	4.8	4.8
4	0	0
5	0	0
CN917		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	0	0
8	0.3	0.3
9	0	0
10	0	0

<DEMODULATOR>

MODE PIN NO.	REC	PLAY
IC6701	-	-
Q6701		
E	2.2	2.2
C	4.9	4.9
B	2.9	2.9
CN6701		
1	0	0
2	4.6	4.6
3	4.5	4.5
4	4.8	4.8
5	0.3	0.3
6	0.3	0.3
7	4.9	4.9
8	0	0
9	0	0
10	0	0

<S-SUB>

MODE PIN NO.	REC	PLAY
IC501	-	-
IC502	-	-
CN511		
1	0.1	4.9
2	4.1	4.1
3	4.7	4.7
4	2.4	2.4
5	4.9	4.9
6	4.9	4.9
7	0	0
8	0	0
9	2.5	2.7
10	2.4	2.4
11	3.3	3.3
12	2.9	2.9
13	2.8	2.8
14	0	0
15	0	0
16	2.4	2.1
17	1.3	2.3
18	4.6	4.6
19	2.8	0.7
20	0	0
21	0	0
22	0	0
23	0	0
24	0	0
25	2.4	2.4
26	0	0
27	2.6	2.3
28	0	0
29	3.5	2.4
30	2.8	2.8
CN512		
1	0	0
2	3.1	3.1
3	0	0
4	2.4	2.4
5	0	0
6	2.4	2.4
7	0	0
8	0	0
9	0	0
10	0	0
11	0	0
12	2.5	0
13	0	0
14	0.2	0.2
CN513		
1	5.0	5.0
2	5.0	5.0
3	2.9	2.9
4	0	0
5	0	0
6	0	0
7	3.0	3.0
8	0	0
9	2.7	2.7

<SW/DISPLAY>
[HR-S6700MS]

MODE PIN NO.	REC	PLAY
IC7001	-	-
IC7002	-	-
CN7001	-	-
CN7002	-	-
CN7191	-	-
FW7001	-	-

<SHUTTLE/PLAY>
[HR-S6700MS]

MODE PIN NO.	REC	PLAY
CN7005	-	-

<REC SAFETY>
[HR-S6700MS]

MODE PIN NO.	REC	PLAY
FW7001	-	-

<JACK>
[HR-S6700MS]

MODE PIN NO.	REC	PLAY
CN7192	-	-

<SW/DISPLAY>
[HR-S7700MS]

MODE PIN NO.	REC	PLAY
IC7001		
1	5.1	5.1
2	2.2	2.2
3	0	0
4	2.2	2.2
5	5.1	5.1
6	5.1	5.1
7	5.1	5.1
8	5.1	5.1
9	5.1	5.1
10	5.1	5.1
11	5.1	5.1
12	4.2	4.2
13	1.1	1.1
14	5.1	5.1
15	4.5	4.5
16	-27.0	-27.0
17	-27.0	-27.0
18	-26.8	-26.8
19	-26.8	-26.8
20	4.7	4.7
21	-22.8	-22.8
22	-	-
23	-	-
24	-	-
25	-	-
26	-	-
27	-	-
28	-	-
29	-	-
30	-	-
31	-	-
32	-	-
33	-	-
34	-	-
35	-	-
36	-	-
37	-	-
38	-	-
39	-	-
40	-	-
41	-	-
42	-	-
43	-	-
44	5.1	5.1
IC7002		
1	5.1	5.1
2	5.1	5.1
3	0	0

MODE PIN NO.	REC	PLAY
CN7001		
1	-28.4	-28.4
2	-15.7	-15.7
3	-19.5	-19.5
4	0	0
5	0	0
6	5.1	5.1
7	4.3	4.5
8	1.1	1.1
9	5.1	5.1
10	4.5	4.5
11	5.1	5.1
12	5.1	5.1
13	0	0
14	5.1	5.1
CN7191		
3	0	0
4	0	0
5	0	0
6	0	0
7	0	0
FW7001		
1	5.1	5.1
2	0	0

<JOG>
[HR-S7700MS]

MODE PIN NO.	REC	PLAY
CN7005		
1	4.9	4.9
2	4.9	4.9
3	0	0
4	0	0
5	5.0	5.0
6	5.0	5.0

<REC SAFETY>
[HR-S7700MS]

MODE PIN NO.	REC	PLAY
FW7001		
1	5.0	5.0
2	0	0

<JACK>
[HR-S7700MS]

MODE PIN NO.	REC	PLAY
CN7192		
1	0	0
2	0	0
3	0	0
4	0	0

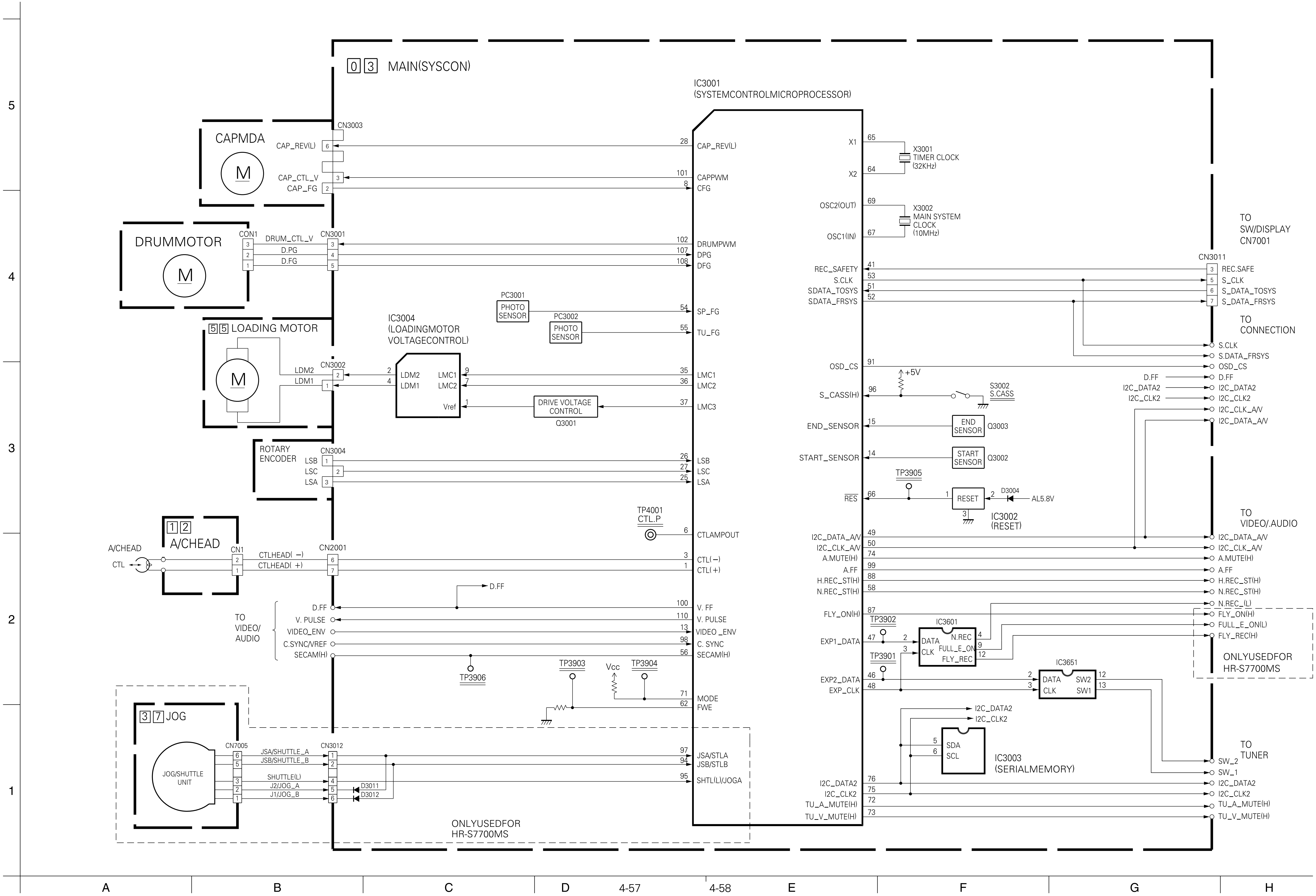
<P/S CONVERTER>

MODE	REC	PLAY
IC3502		
1	6.4	6.4
2	7.0	7.0
3	6.4	6.4
4	6.7	6.7
5	9.3	9.3
6	9.5	9.5
7	3.3	3.3
8	2.8	2.8
9	2.8	2.8
10	3.3	3.3
11	0	0
12	2.3	2.3
13	11.4	11.4
14	5.6	5.6
15	3.3	3.3
16	7.8	7.8
17	2.9	2.9
18	7.5	7.5
19	2.6	2.6
20	7.5	7.5
21	2.6	2.6
22	3.9	3.9
23	5.3	5.3
24	1.3	1.3
25	0	0
26	0	0
27	11.3	11.3
28	0	0
IC3503		
1	4.9	4.9
2	0	0
3	0	0
4	0	0
5	0.6	0.6
6	0	0
7	0	0
8	0	0
9	4.9	4.9
10	0	0
11	3.0	3.0
12	3.0	3.0
13	0	0
14	1.4	1.4
15	0	0
16	1.4	1.4
IC3504		
1	0	0
2	0.7	0.7
3	10.3	10.3
4	2.2	2.2
5	0	0
6	1.3	1.3
7	0	0
8	5.9	5.9
9	0	0
10	5.8	5.8
11	1.8	1.8
12	6.8	6.8
13	0	0
14	5.9	5.9
15	11.8	11.8
16	5.9	5.9
17	6.1	6.1
18	6.1	6.1
IC3506		
1	2.5	2.5
2	0	0
3	2.5	2.5
4	2.5	2.5
5	2.1	2.1
6	2.1	2.1
7	2.3	2.3
8	4.8	4.8
9	2.3	2.3
10	0	0
11	2.3	2.3
12	2.1	2.1
13	2.5	2.5
14	1.8	1.8
15	0.9	0.9
16	0.7	0.7
17	0	0
18	0	0
19	0	0
20	0	0
21	2.5	2.5
22	2.0	2.0
23	1.3	1.3
24	2.1	2.1
IC3512		
1	4.9	4.9
2	2.5	2.5
3	4.2	4.2
4	4.9	4.9
5	2.5	2.5
6	2.5	2.5
7	0	0
8	4.8	4.8
9	0	0
10	4.9	4.9
11	0.6	0.6
12	4.0	4.0
13	4.9	4.9
14	4.9	4.9
IC3513		
1	0	0
2	4.4	4.4
3	4.9	4.9
4	2.2	2.2
5	4.9	4.9
6	0.7	0.7
7	4.2	4.2
8	0	0
9	0.9	0.9
10	4.0	4.0
11	4.9	4.9
12	0.6	0.6
13	4.9	4.9
14	2.0	2.0
15	0	0
16	4.9	4.9
IC3514		
1	0	0
2	0.6	0.6
3	4.9	4.9
4	0.7	0.7
5	0.2	0.2
6	0	0
7	4.7	4.7
8	0	0
9	0	0
10	4.2	4.2
11	4.9	4.9
12	4.6	4.6
13	4.2	4.2
14	0	0
15	2.7	2.7
16	4.9	4.9
IC3517		
1	2.0	2.0
2	4.4	4.4
3	0.6	0.6
4	4.8	4.8
5	0	0
6	2.1	2.1
7	4.9	4.9
8	2.4	2.4
Q3504		
E	4.7	4.7
C	9.4	9.4
B	5.3	5.3
Q3505		
E	10.0	10.0
C	8.1	8.1
B	9.4	9.4
Q3506		
E	7.5	7.5
C	11.7	11.7
B	8.1	8.1
Q3507		
E	4.5	4.5
C	11.7	11.7
B	5.1	5.1
Q3508		
E	4.6	4.6
C	10.3	10.3
B	5.2	5.2
Q3509		
E	11.0	11.0
C	8.8	8.8
B	10.3	10.3
Q3510		
E	8.2	8.2
C	11.7	11.7
B	8.9	8.9
Q3511		
E	1.6	1.6
C	11.7	11.7
B	2.2	2.2
Q3512		
E	2.7	2.7
C	10.7	10.7
B	3.2	3.2
Q3513		
E	11.3	11.3
C	5.2	5.2
B	10.7	10.7
Q3514		
E	4.5	4.5
C	11.7	11.7
B	5.2	5.2
Q3515		
E	1.6	1.6
C	11.7	11.7
B	2.3	2.3
Q3520		
E	7.5	7.5
C	11.7	11.7
B	8.1	8.1
Q3525		
E	2.3	2.3
C	11.9	11.9
B	2.9	2.9
Q3540		
E	3.0	3.0
C	11.7	11.7
B	3.6	3.6
Q3541		
E	2.4	2.4
C	4.1	4.1
B	3.0	3.0
Q3542		
E	4.7	4.7
C	3.5	3.5
B	4.1	4.1
Q3543		
E	2.9	2.9
C	4.9	4.9
B	3.5	3.5
Q3544		
E	2.4	2.4
C	4.1	4.1
B	3.0	3.0
Q3545		
E	4.7	4.7
C	3.5	3.5
B	4.1	4.1
Q3546		
E	2.9	2.9
C	4.9	4.9
B	3.5	3.5
CN3501		
7	11.9	11.9
8	11.9	11.9
9	0	0
10	0	0
CN3502		
1	2.7	2.7
2	0	0
3	3.0	3.0
4	0	0
5	0	0
6	0	0
7	2.9	2.9
8	5.0	5.0
9	5.0	5.0

<SECAM>

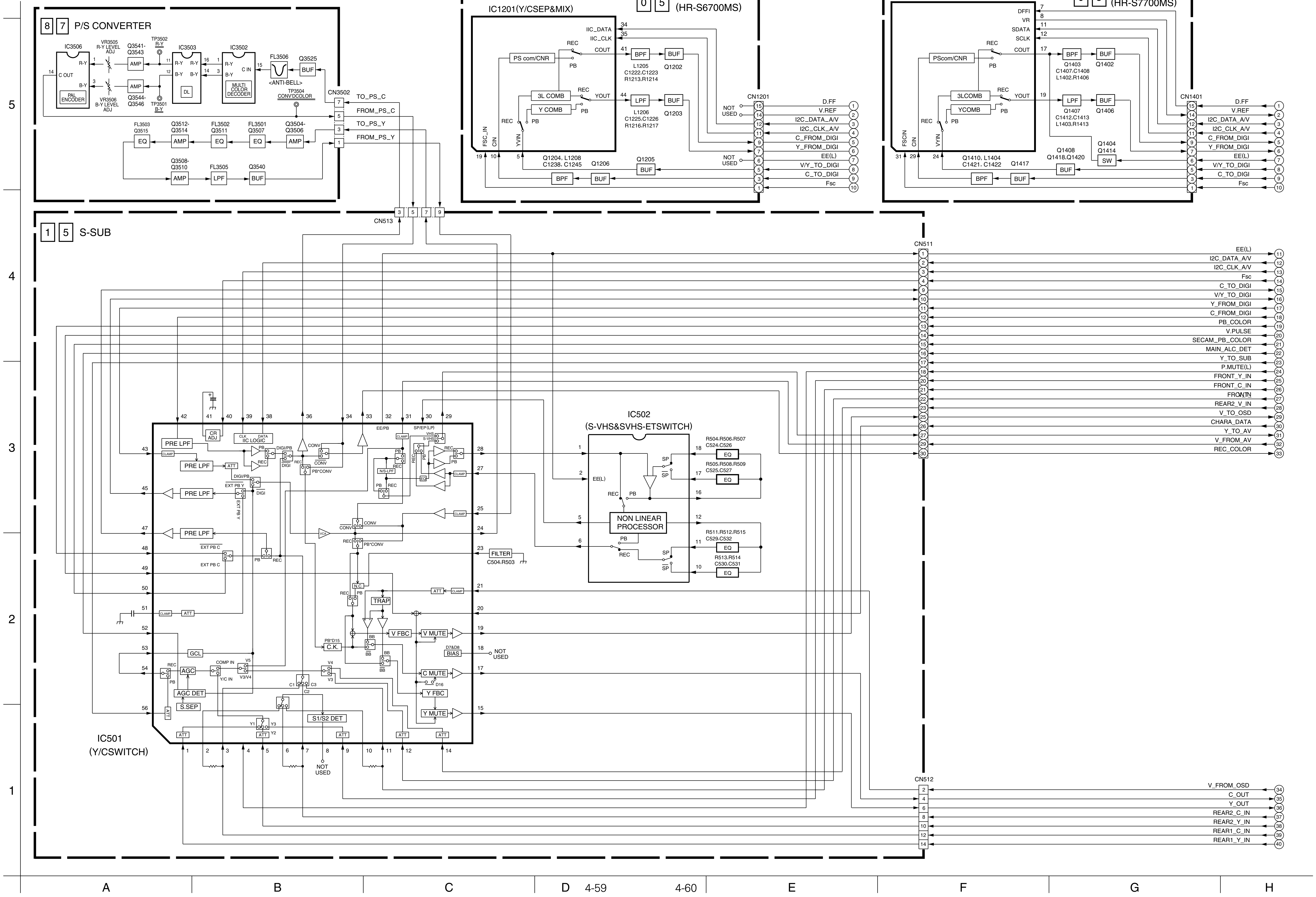
MODE PIN NO.	REC	PLAY
IC301	-	-
Q301	-	-
Q302	-	-
CN301		
1	0	2.5
2	2.3	2.3
3	4.9	4.9
4	0.4	0.4
5	0	0
CN302		
1	2.4	2.4
2	0	0
3	0	5.1
4	2.5	0
5	4.9	2.7
6	0	0

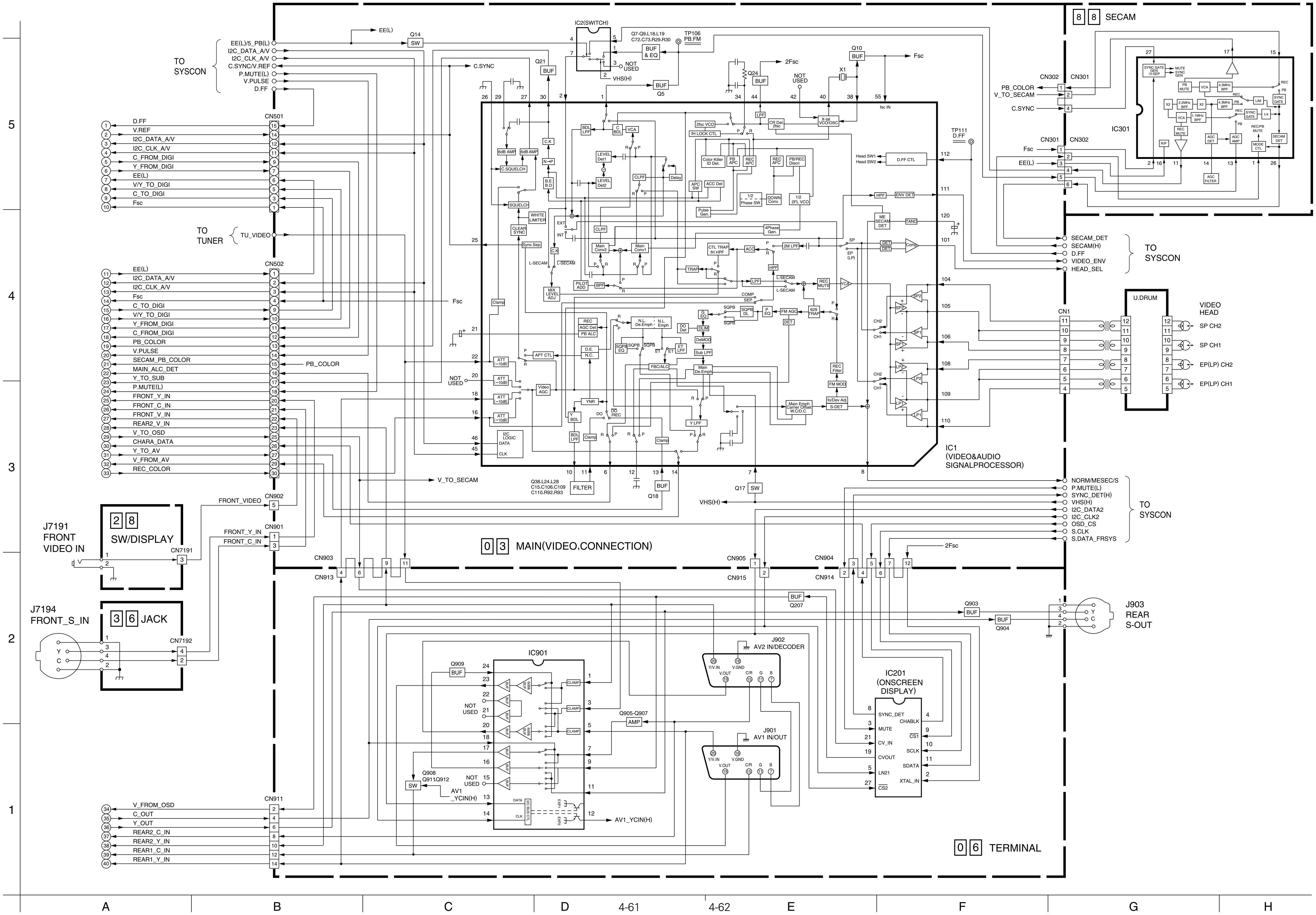
4.30 SYSTEM CONTROL BLOCK DIAGRAM



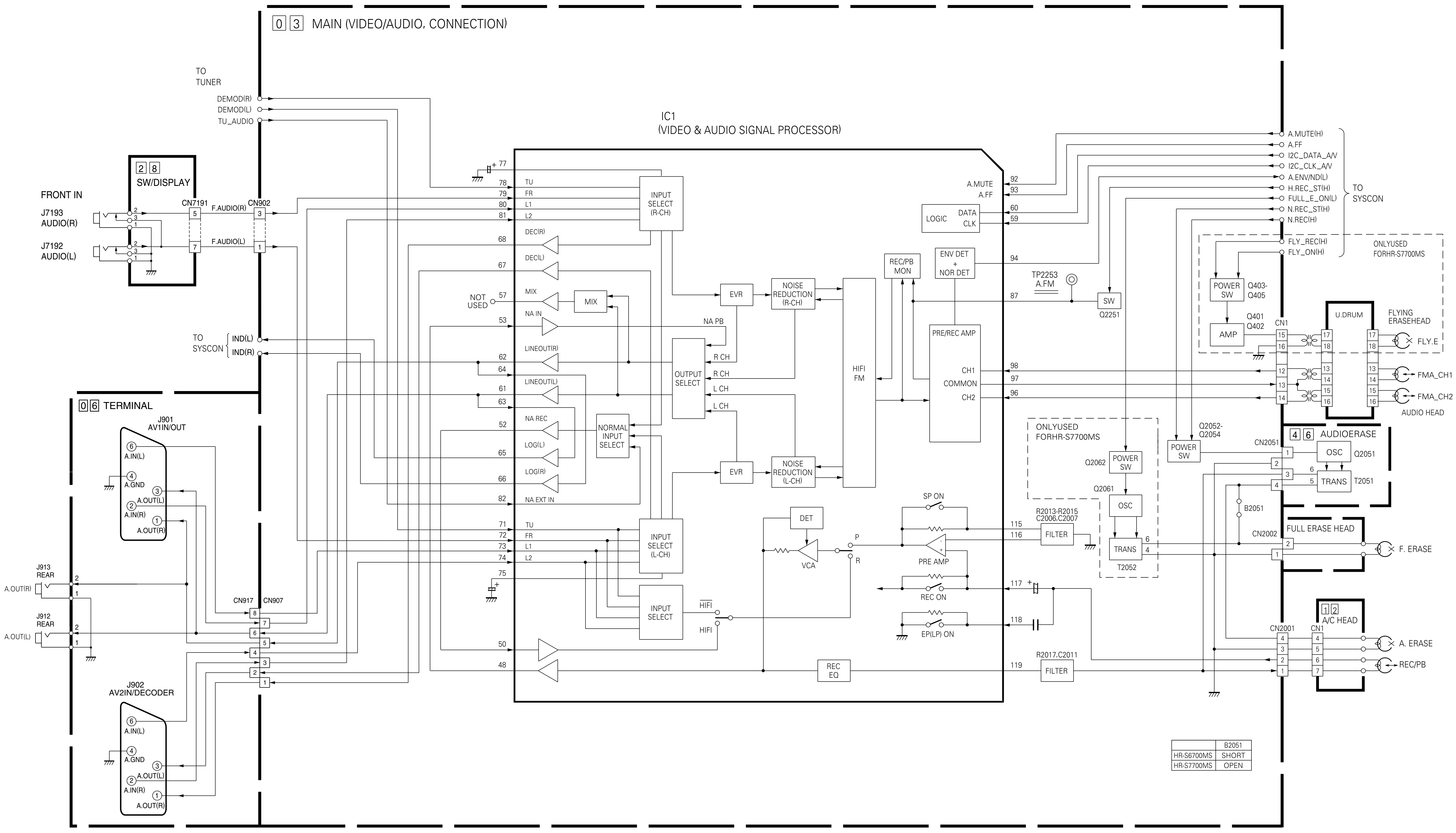
03 MAIN(SYSCON)
IC3001
(SYSTEMCONTROLMICROPROCESSOR)
CAPMDA
M
CN3003
CAP_REV(L)
CAP_CTL_V
CAP_FG
28 CAP_REV(L)
101 CAPPWM
8 CFG
DRUMMOTOR
CON1
CN3001
DRUM_CTL_V
D.PG
D.FG
102 DRUMPWM
107 DPG
108 DFG
PC3001
PHOTO SENSOR
PC3002
PHOTO SENSOR
54 SP_FG
55 TU_FG
55 LOADING MOTOR
IC3004
(LOADINGMOTOR VOLTAGECONTROL)
CN3002
LDM2
LDM1
LMC1
LMC2
Vref
35 LMC1
36 LMC2
37 LMC3
DRIVE VOLTAGE CONTROL
Q3001
ROTARY ENCODER
CN3004
LSB
LSC
LSA
26 LSB
27 LSC
25 LSA
TP4001
CTL.P
6 CTLAMPOUT
12 A/CHEAD
A/CHEAD
CTL
CN1
CN2001
CTLHEAD(−)
CTLHEAD(+)
3 CTL(−)
1 CTL(+)
D.FF
TO VIDEO/ AUDIO
D.FF
V. PULSE
VIDEO_ENV
C.SYNC/VREF
SECAM(H)
100 V. FF
110 V. PULSE
13 VIDEO _ENV
98 C. SYNC
56 SECAM(H)
TP3906
TP3903
Vcc
TP3904
71 MODE
62 FWE
37 JOG
JOG/SHUTTLE UNIT
CN7005
CN3012
JSA/SHUTTLE_A
JSB/SHUTTLE_B
SHUTTLE(L)
J2/JOG_A
J1/JOG_B
D3011
D3012
97 JSA/STLA
94 JSB/STLB
95 SHTL(L)/JOGA
ONLYUSEDFOR HR-S7700MS
X1 65
X2 64
X3001 TIMER CLOCK (32KHz)
OSC2(OUT) 69
OSC1(IN) 67
X3002 MAIN SYSTEM CLOCK (10MHz)
REC_SAFETY 41
S.CLK 53
SDATA_TOSYS 51
SDATA_FRSYS 52
CN3011
TO SW/DISPLAY CN7001
REC.SAFE
S_CLK
S_DATA_TOSYS
S_DATA_FRSYS
TO CONNECTION
S.CLK
S.DATA_FRSYS
OSD_CS
D.FF
I2C_DATA2
I2C_CLK2
I2C_CLK_A/V
I2C_DATA_A/V
OSD_CS 91
+5V
S_CASS(H) 96
S3002 S.CASS
END_SENSOR 15
END SENSOR
Q3003
START_SENSOR 14
START SENSOR
Q3002
TP3905
RES 66
RESET
D3004
AL5.8V
IC3002 (RESET)
TO VIDEO/.AUDIO
I2C_DATA_A/V 49
I2C_CLK_A/V 50
A.MUTE(H) 74
A.FF 99
H.REC_ST(H) 88
N.REC_ST(H) 58
I2C_DATA_A/V
I2C_CLK_A/V
A.MUTE(H)
A.FF
H.REC_ST(H)
N.REC_ST(H)
N.REC_(L)
FLY_ON(H) 87
FLY_ON(H)
FULL_E_ON(L)
FLY_REC(H)
TP3902
IC3601
EXP1_DATA 47
DATA
CLK
N.REC
FULL_E_ON
FLY_REC
TP3901
ONLYUSEDFOR HR-S7700MS
IC3651
EXP2_DATA 46
EXP_CLK 48
DATA
CLK
SW2
SW1
I2C_DATA2
I2C_CLK2
SDA
SCL
IC3003 (SERIALMEMORY)
TO TUNER
SW_2
SW_1
I2C_DATA2 76
I2C_CLK2 75
TU_A_MUTE(H) 72
TU_V_MUTE(H) 73
I2C_DATA2
I2C_CLK2
TU_A_MUTE(H)
TU_V_MUTE(H)
5
4
3
2
1
A
B
C
D
E
F
G
H

4.31 VIDEO BLOCK DIAGRAM


8 7 P/S CONVERTER
IC3506
C OUT
PAL ENCODER
R-Y
B-Y
VR3505 R-Y LEVEL ADJ
VR3506 B-Y LEVEL ADJ
Q3541-Q3543
Q3544-Q3546
AMP
TP3502 R-Y
TP3501 B-Y
IC3503
DL
IC3502
MULTI COLOR DECODER
C IN
FL3506
<ANTI-BELL>
Q3525
BUF
TP3504 CONV'DCOLOR
CN3502
TO_PS_C
FROM_PS_C
TO_PS_Y
FROM_PS_Y
FL3503
Q3515
EQ
Q3512-Q3514
FL3502
Q3511
FL3501
Q3507
Q3504-Q3506
Q3508-Q3510
FL3505
LPF
Q3540
0 5 2D DIGITAL (HR-S6700MS)
IC1201(Y/CSEP&MIX)
IIC_DATA
IIC_CLK
COUT
YOUT
PS com/CNR
3L COMB
Y COMB
REC
PB
FSC_IN
CIN
Y/VIN
BPF
LPF
L1205 C1222.C1223 R1213.R1214
Q1202
L1206 C1225.C1226 R1216.R1217
Q1203
Q1204. L1208 C1238. C1245
Q1206
Q1205
CN1201
NOT USED
D.FF
V.REF
I2C_DATA_A/V
I2C_CLK_A/V
C_FROM_DIGI
Y_FROM_DIGI
EE(L)
V/Y_TO_DIGI
C_TO_DIGI
Fsc
0 5 3D DIGITAL/2M (HR-S7700MS)
IC1401(Y/CSEP&MIX)
DFFI
VR
SDATA
SCLK
PScom/CNR
3LCOMB
YCOMB
FSCIN
Q1403 C1407.C1408 L1402.R1406
Q1402
Q1407 C1412.C1413 L1403.R1413
Q1406
Q1404 Q1414
SW
Q1408 Q1418.Q1420
Q1410. L1404 C1421. C1422
Q1417
CN1401
CN513
1 5 S-SUB
CN511
EE(L)
I2C_DATA_A/V
I2C_CLK_A/V
Fsc
C_TO_DIGI
V/Y_TO_DIGI
Y_FROM_DIGI
C_FROM_DIGI
PB_COLOR
V.PULSE
SECAM_PB_COLOR
MAIN_ALC_DET
Y_TO_SUB
P.MUTE(L)
FRONT_Y_IN
FRONT_C_IN
FRONT_V_IN
REAR2_V_IN
V_TO_OSD
CHARA_DATA
Y_TO_AV
V_FROM_AV
REC_COLOR
IC502 (S-VHS&SVHS-ETSWITCH)
NON LINEAR PROCESSOR
R504.R506.R507 C524.C526
R505.R508.R509 C525.C527
R511.R512.R515 C529.C532
R513.R514 C530.C531
SP
IC501 (Y/CSWITCH)
PRE LPF
CR ADJ
IIC LOGIC
CLK DATA
DIGI/PB
CONV
PB*CONV
EE/PB
SP/EP(LP)
S-VHS
N/S-LPF
CLAMP
ATT
EXT PB Y
EXT PB C
VCA
FILTER
C504.R503
N.C.
TRAP
V FBC
V MUTE
C MUTE
Y FBC
Y MUTE
D7&D8 BIAS
NOT USED
PB*D15
C.K.
BB
GCL
AGC
AGC DET
S.SEP
COMP IN
Y/C IN
V3/V4
S1/S2 DET
D16
CN512
V_FROM_OSD
C_OUT
Y_OUT
REAR2_C_IN
REAR2_Y_IN
REAR1_C_IN
REAR1_Y_IN
A
B
C
D
E
F
G
H
1
2
3
4
5


0 3 MAIN(VIDEO,CONNECTION)
8 8 SECAM
0 6 TERMINAL
2 8 SW/DISPLAY
3 6 JACK
IC1 (VIDEO&AUDIO SIGNALPROCESSOR)
IC2(SWITCH)
IC301
IC901
IC201 (ONSCREEN DISPLAY)
TO SYSCON
TO TUNER
TU_VIDEO
EE(L)/5_PB(L)
I2C_DATA_A/V
I2C_CLK_A/V
C.SYNC/V.REF
P.MUTE(L)
V.PULSE
D.FF
CN501
D.FF
V.REF
I2C_DATA_A/V
I2C_CLK_A/V
C_FROM_DIGI
Y_FROM_DIGI
EE(L)
V/Y_TO_DIGI
C_TO_DIGI
Fsc
CN502
EE(L)
I2C_DATA_A/V
I2C_CLK_A/V
Fsc
C_TO_DIGI
V/Y_TO_DIGI
Y_FROM_DIGI
C_FROM_DIGI
PB_COLOR
V.PULSE
SECAM_PB_COLOR
MAIN_ALC_DET
Y_TO_SUB
P.MUTE(L)
FRONT_Y_IN
FRONT_C_IN
FRONT_V_IN
REAR2_V_IN
V_TO_OSD
CHARA_DATA
Y_TO_AV
V_FROM_AV
REC_COLOR
CN911
V_FROM_OSD
C_OUT
Y_OUT
REAR2_C_IN
REAR2_Y_IN
REAR1_C_IN
REAR1_Y_IN
J7191 FRONT VIDEO IN
CN7191
J7194 FRONT_S_IN
CN7192
CN902 FRONT_VIDEO
CN901 FRONT_Y_IN FRONT_C_IN
CN903 CN913 CN905 CN915 CN904 CN914
Q14 SW
Q21 BUF
Q5 BUF
Q10 BUF
Q24 BUF
Q17 SW
Q18 BUF
Q207 BUF
Q903 BUF
Q904 BUF
Q909 BUF
Q908 Q911,Q912 SW
Q905-Q907 AMP
TP106 PB.FM
TP111 D.FF
X1
2Fsc
Fsc
NOT USED
VHS(H)
V_TO_SECAM
FILTER
Q7-Q9,L18,L19 C72,C73,R29,R30
Q38,L24,L28 C105,C106,C109 C110,R92,R93
CN302 PB_COLOR V_TO_SECAM C.SYNC
CN301 Fsc EE(L)
SECAM_DET
SECAM(H)
D.FF
VIDEO_ENV
HEAD_SEL
NORM/MESEC/S
P.MUTE(L)
SYNC_DET(H)
VHS(H)
I2C_DATA2
I2C_CLK2
OSD_CS
S.CLK
S.DATA_FRSYS
U.DRUM
VIDEO HEAD
SP CH2
SP CH1
EP(LP) CH2
EP(LP) CH1
CN1
J903 REAR S-OUT
J902 AV2 IN/DECODER
J901 AV1 IN/OUT
AV1_YCIN(H)
SYNC_DET
MUTE
CV_IN
CVOUT
LN21
CS2
CHABLK
CS1
SCLK
SDATA
XTAL_IN
A B C D E F G H
1 2 3 4 5

4.32 AUDIO BLOCK DIAGRAM


03 MAIN (VIDEO/AUDIO, CONNECTION)
TO TUNER
DEMOD(R)
DEMOD(L)
TU_AUDIO
IC1
(VIDEO & AUDIO SIGNAL PROCESSOR)
28 SW/DISPLAY
FRONT IN
J7193 AUDIO(R)
J7192 AUDIO(L)
CN7191
CN902
F.AUDIO(R)
F.AUDIO(L)
TU
FR
L1
L2
DEC(R)
DEC(L)
MIX
NA IN
LINEOUT(R)
LINEOUT(L)
NA REC
LOG(L)
LOG(R)
NA EXT IN
NOT USED
INPUT SELECT (R-CH)
INPUT SELECT (L-CH)
INPUT SELECT
OUTPUT SELECT
NORMAL INPUT SELECT
MIX
EVR
NOISE REDUCTION (R-CH)
NOISE REDUCTION (L-CH)
HIFI FM
NA PB
R CH
L CH
HIFI
DET
VCA
P
R
PRE AMP
SP ON
REC ON
EP(LP) ON
REC EQ
LOGIC
DATA
CLK
A.MUTE
A.FF
REC/PB MON
ENV DET + NOR DET
PRE/REC AMP
CH1
COMMON
CH2
TP2253 A.FM
SW
Q2251
TO SYSCON
IND(L)
IND(R)
06 TERMINAL
J901 AV1IN/OUT
J902 AV2IN/DECODER
A.IN(L)
A.GND
A.OUT(L)
A.IN(R)
A.OUT(R)
J913 REAR
J912 REAR
CN917
CN907
A.MUTE(H)
A.FF
I2C_DATA_A/V
I2C_CLK_A/V
A.ENV/NDI(L)
H.REC_ST(H)
FULL_E_ON(L)
N.REC_ST(H)
N.REC(H)
FLY_REC(H)
FLY_ON(H)
TO SYSCON
ONLYUSED FORHR-S7700MS
POWER SW
Q403-Q405
AMP
Q401 Q402
CN1
U.DRUM
FLYING ERASEHEAD
FLY.E
FMA_CH1
FMA_CH2
AUDIO HEAD
ONLYUSED FORHR-S7700MS
Q2062
POWER SW
Q2061
OSC
TRANS
T2052
Q2052-Q2054
POWER SW
CN2051
46 AUDIOERASE
OSC
Q2051
TRANS
T2051
B2051
R2013-R2015 C2006.C2007
FILTER
CN2002
FULL ERASE HEAD
F. ERASE
R2017.C2011
FILTER
CN2001
CN1
12 A/C HEAD
A. ERASE
REC/PB

	B2051
HR-S6700MS	SHORT
HR-S7700MS	OPEN